U.S.-Mexico Joint Working Committee Meeting Summary

September 2015

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Abbreviations, Acronyms, and Terms

Term	Definition
ADOT	Arizona Department of Transportation
Bluetooth	A wireless technology standard for exchanging data over short distances from fixed and mobile devices
Caltrans	California Department of Transportation
CBP	U.S. Customs and Border Protection
DOS	U.S. Department of State
EA	Environmental Assessment (per the U.S. National Environmental Policy Act)
FAST	Free and Secure Trade Program, a commercial clearance program for known low-risk shipments entering the U.S. from Canada and Mexico. This allows expedited processing for commercial carriers who have completed background checks and fulfill certain eligibility requirements.
FHWA	U.S. Federal Highway Administration
FMCSA	U.S. Federal Motor Carrier Safety Administration
GPS	Global satellite positioning
GSA	U.S. General Services Administration
ITS	Intelligent transportation systems, the application of advanced information and communications technology to surface transportation in order to achieve enhanced safety and mobility while reducing the environmental impact of transportation.
JWC	U.S. – Mexico Joint Working Committee on Transportation Planning
MAP-21	The Moving Ahead for Progress in the 21st Century Act
NADB	North American Development Bank
NAFTA	North American Free Trade Agreement
NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act
NMDOT	New Mexico Department of Transportation
OMB	U.S. Office of Management and Budget
Port of entry	A location through which people and goods may enter a country
RFID	Radio frequency identification, the wireless use of electromagnetic fields to transfer data for the purposes of automatically identifying and tracking tags (e.g., transponders) attached to objects (e.g., vehicles).

Term	Definition
SCT	Mexico's Secretariat of Communications and Transportation
SRE	Mexico's Secretariat of Foreign Relations
TDM	Travel demand model
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIGER	Transportation Investment Generating Economic Recovery grants, a discretionary grant program that funds capital investments in surface transportation infrastructure on a competitive basis.
TxDOT	Texas Department of Transportation
USDOT	U.S. Department of Transportation
Wi-Fi	A local area wireless technology that allows an electronic device to participate in computer networking.

Executive Summary

This report summarizes the September 2015 meeting of the Mexico – U.S. Joint Working Committee on Transportation (JWC), which took place on September 9 – 10, 2015 in Austin, Texas. The JWC is a binational group whose primary focus is to cooperate on land transportation planning and the facilitation of efficient, safe, and economical cross-border transportation movements between the U.S. and Mexico. Among other efforts, the JWC works to:

- Establish methods and procedures to analyze current and future transportation infrastructure needs.
- Evaluate transportation demand and infrastructure impacts resulting from future changes in land transportation traffic.

The September 2015 meeting included presentations and discussions about projects related to the JWC 2013-2015 Work Plan, available at: https://www.borderplanning.fhwa.dot.gov/documents/WorkPlans/WorkPlan2013_2015.asp. It also included discussion of other border-related initiatives, programs, and research. In addition, JWC members discussed the 2016-2018 Work Plan and approved it, as amended.

Next steps from the meeting included the dissemination of links and contact information for various projects; planning meetings to advance several ongoing initiatives, such as a new border wait time study and a border financing workshop; and research on emerging new areas, including the determination of latent demand and the use of models to estimate the economic impact of border wait times. A detailed description of next steps is in the Commitments and Agreements section of this document on page 43.

More information on the JWC is available online at: https://www.borderplanning.fhwa.dot.gov/mexico.asp.

Call to Order and Welcoming Remarks

Al Alonzi of the Federal Highway Administration (FHWA) welcomed participants. He noted that population growth in Texas is straining transportation and other infrastructure. This is also correlated with an increase in traffic accidents and fatalities. Growth also impacts the movement of freight, and insufficient infrastructure for freight movement can hurt the economy. The Texas Department of Transportation (TxDOT) and Mexico's Secretariat of Communications and Transportation (SCT) signed an agreement September 8, 2015 to improve economic relations and collaboration on border infrastructure projects.

Al thanked the JWC for its tremendous work to improve collaboration and border transportation infrastructure, and cited several examples:

- Border master plans
- Border wait study in Texas using radio frequency identification (RFID) data
- Incident management workshops
- Peer exchanges

He closed by encouraging the participants to be creative and innovative, noting that it is just important to disseminate information and new technologies as it is to generate it.

Meeting Purpose and Introductions

David Kim of FHWA welcomed participants and expressed his appreciation for his co-chair, Marco Frías. David cited key statistics that underscore the importance of JWC activities, including $1.4 billion in annual two-way trade and hundreds of thousands of people crossing the border legally each day.

The U.S. Department of Transportation (USDOT) Secretary Anthony Foxx has made pedestrian and bicycle transportation a key priority; as such, David noted that he was gratified to see a border pedestrian and bicycle study on the agenda for the meeting. David indicated that he would like to recognize projects related to pedestrian and bicycle travel, as well as other border infrastructure projects, and encouraged people to notify Sylvia of any future examples of this magnitude.

The USDOT is working with other US agencies to develop border crossing and implementation priorities for the presidential budget. The border master plans will contribute to this process. Funding is limited, so it will be beneficial to continue considering innovative stewardship and financing options for projects.

Marcos Frías of SCT thanked David Kim and Sylvia Grijalva of FHWA and noted that he and his colleagues are pleased that SCT signed a September 8, 2015 letter of intention to strengthen collaboration with Texas. In addition, SCT has signed similar letters of intent with California and Arizona, and there is interest in pursuing a similar agreement with New Mexico.

High Level Economic Dialogue and 21st Century Border Bilateral Executive Steering Committee Infrastructure Subcommittee

Cameron McGlothlin of the U.S. Department of State (DOS), Mauricio Ibarra Ponce de León of Mexico's Secretariat of Foreign Relations (SRE), Marco Frías of SCT, and Tricia Harr of FHWA discussed the High Level Economic Dialogue and the 21st Century Border Bilateral Executive Steering Committee Infrastructure Subcommittee.

Announced by Presidents Barack Obama and Enrique Peña Nieto in May 2013, the High Level Economic Dialogue focuses on advancing strategic economic and commercial priorities which are central to promoting mutual economic growth, job creation, and global competitiveness for Mexico and the U.S. The High Level Economic Dialogue meets annually at the cabinet level to promote progress in a range of existing successful bilateral dialogues and working groups. Mexico and the United States have developed a work plan that lays out potential areas for cooperation under three broad pillars:

- Promoting competitiveness and connectivity
- Fostering economic growth, productivity, entrepreneurship, and innovation
- Partnering for regional and global leadership

The dialogues address a variety of topic areas, including border infrastructure. Efficiency at the border has become a focus of leadership in both countries. Border modernization, including pre-inspection and trusted traveler prioritization, has also become a priority. The next dialogue will take place February 2016, and it provides an opportunity to showcase binational accomplishments and elevate shared challenges for discussion at high levels of leadership.

Mauricio Ibarra Ponce de León of SRE discussed the infrastructure subcommittee of the 21st Century Border Bilateral Executive Steering Committee. In May 2010, the U.S. and Mexico issued a Joint Declaration on 21st Century Border Management, available at: https://www.whitehouse.gov/the-press-office/declaration-government-united-states-america-and-government-united-mexican-states-c. This declaration established a bilateral executive committee to focus on the following:

- Movement of people
- Development of infrastructure
- Public safety

On the Mexican side, the Executive Steering Committee is led by SRE. On the U.S. side, the committee is led by DOS. Many other agencies also participate. The Infrastructure Subcommittee has completed several short-term goals in 2015, including the inauguration of the new pedestrian facility at San Ysidro and the West Rail Bypass International Bridge between Brownsville, Texas and Matamoros, Tamaulipas. Several more projects, including the Tornillo-Guadalupe port of entry at the Texas-Chihuahua border and the San Diego-Tijuana Cross Border Airport Pedestrian Bridge are scheduled for completion later in 2015. Additional efforts are underway to improve the border crossing experience between the

countries, including a pilot program to measure and reduce border wait times at various ports of entry. The border wait time system at the Zaragoza Bridge will likely be expanded by the end of 2015.

The next subcommittee meeting will be at the Executive Steering Committee in early December 2015. The subcommittee will develop a new action plan for 2016, which will likely include a proposed study with the North American Development Bank (NADB) on ports. Both countries will use the results of this research to consider how ports could better use the NADB platform for information exchange.

Marco Frías of SCT noted the importance of tracking progress on projects. He emphasized the significance of recent accomplishments, such as the opening of the new pedestrian crossing and the widening of lanes to make the flow of traffic and people more efficient in Chaparral. He noted that the West Rail crossing at Brownsville-Matamoros between Texas and Tamaulipas was the first binational railroad bridge to be constructed in over one hundred years. It will be a powerful engine for economic development in communities on both sides of the border.

Tricia Harr introduced herself as the new team leader for the Border and Interstate Planning Team at FHWA and noted that FHWA participates in the Executive Steering Committee at the staff level. She thanked the others for the updates on collaborative border projects and expressed her enthusiasm for working together in the future.

Commission on Environmental Cooperation Greening Transportation at the Border

Juan Carlos Villa of the Texas Transportation Institute presented about a study that analyzed best practices on reducing air pollution at land ports of entry and produced recommendations for Canada, Mexico, and the U.S. The Commission on Environmental Cooperation, based in Canada, commissioned the study, which proceeded in two phases. The first phase was a literature review of existing research, and the second phase involved identifying and prioritizing best practices. More information is available at http://www3.cec.org/islandora/en/item/11656-reducing-air-pollution-land-ports-entry-recommendations-canada-mexico-and-united.

Commercial vehicle traffic on the U.S. – Mexico border grew 78 percent from 1995–2012. While passenger vehicle traffic has not grown significantly over that time period, it has risen over the past few years. Freight traffic between the U.S. and Mexico is highly concentrated; three ports of entry service 75 percent of the freight that moves across the U.S. – Mexico border. The remaining commercial traffic moves through more than twenty other crossings.

Vehicle emissions measurement is typically based on two key data elements: vehicle activity (in terms of volume of activity per time or distance) and emission factors (in terms of mass per time or distance). Researchers used the U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES) model to perform the analysis. In the U.S., the MOVES model is currently required for all new regional emissions analyses for transportation air pollution conformity and project-level hot spot analyses. To

use the model, the user prepares a run specification to define the place, time, vehicle, road, fuel, emission-producing process, and pollutant parameters.

The study identified four categories of strategies for reducing emissions (Figure 1):

- **Vehicle technologies.** This category focuses on making vehicles more efficient. Specific examples include reducing loads, reducing air resistance, and improving engine fuel efficiency.
- **Fuel technologies.** This category focuses on shifting to low carbon fuels. One specific strategy would be to install low-emitting fuel stations close to the border; currently, there are none.
- **System optimization/operation efficiency.** This category focuses on reducing idling. One specific strategy is to promote intelligent transportation systems (ITS) at the border that encourage vehicles to turn off engines while waiting to cross.
- **Smart/sustainable growth.** This strategy focuses on reducing congestion through integrated planning. One strategy in this category would be to reduce the number of empty seats in vehicles.

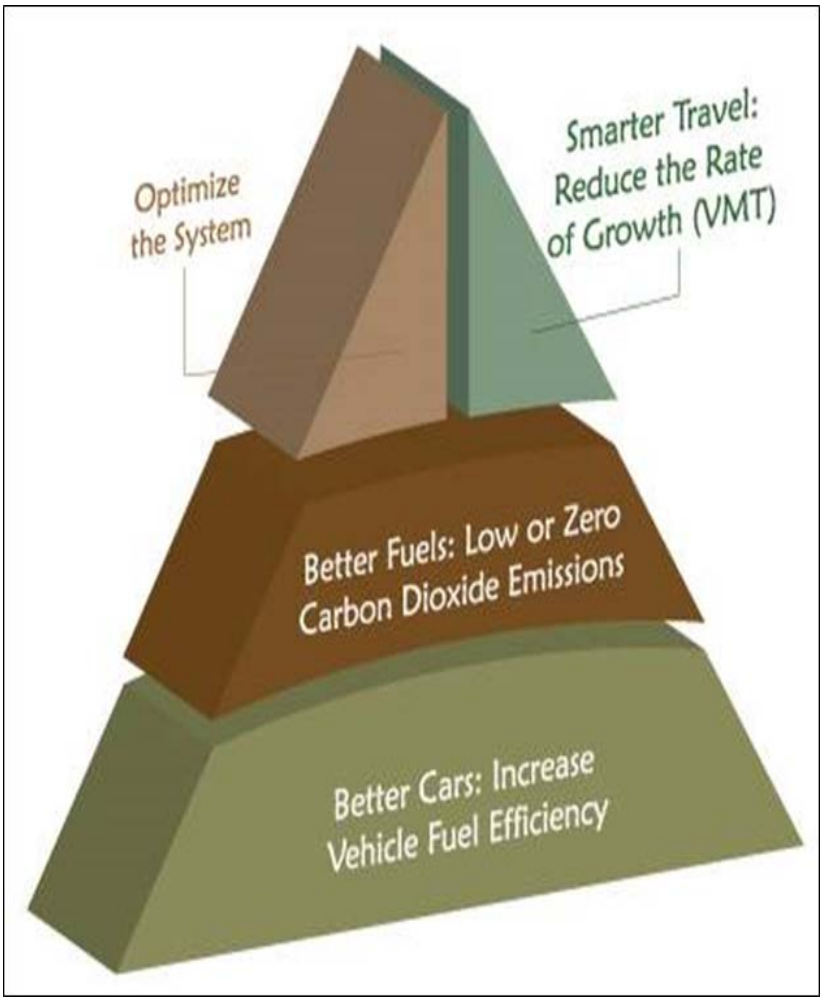


Figure 1. Proposed strategies for improving air quality at border crossings.
Source: Texas Transportation Institute

The Greening Transportation at the Border study identified examples of tri-national examples of best practices to reduce emissions at the border (Table 1).

Table 1. Best practice examples for improving air quality at border crossings.
Source: Texas Transportation Institute

Strategy	Best Practice	Status	Environment	Vehicle Type
Engine and Vehicle Technologies	Retrofit: Strategies to Reduce Particulate Matter at the Laredo/Nuevo Laredo Border Crossing	Recommendation	Border environment	Trucks
	Retrofit: San Diego-Tijuana Diesel Emissions Reduction Demonstration Project	Piloted	Border environment	Trucks
	SmartWay and *Transporte Limpio*	Implemented and operational	Urban and long-haul freight transportation. Less applicable at the border because of low speeds when crossing.	Trucks
System Optimization/ Operation Efficiencies	Washington State and British Columbia initiatives to reduce GHG emissions in the Cascade Gateway, Anti-idling program	Piloted	Border environment	Trucks and light-duty vehicles
	Port anti-idling program	In operation	Port drayage environment	Trucks
	Truck stop electrification	Implemented and operational	Urban and long-haul freight transportation	Trucks
	Border trusted-traveler programs	Implemented and operational	Border environment	Trucks and light-duty vehicles
	Eco-driving training for drivers	Piloted	Border environment	Mainly trucks

The major findings of the study were:

- EPA's emission analysis procedures are typically originated and implemented in the U.S. and then adopted first by Canada and second by Mexico.
- Difficulties were found in data integration and data collection (monitoring equipment) on the Mexican side of the border at U.S. – Mexico ports of entry.
- Studies and technical reports along the U.S. – Mexico border were more common than along the U.S. – Canada border, and the only health studies were done at the Canadian border.
- Every port of entry has different characteristics in terms of layout, traffic volumes and mix, geography, and other factors. Therefore, it would be difficult to replicate interventions without a detailed analysis of the specific characteristics of each port of entry.

The Greening Transportation at the Border Study included recommendations for reducing emissions at the border:

- To ensure a unified North American approach, collection methods should be presented on the Commission for Environmental Cooperation website.
- Joint monitoring procedures, data collection, data inventories, and environmental planning at selected border regions will help to ensure high data quality.
- Verifying port of entry characteristics with border agencies, Provinces/States, and local stakeholders is advisable to confirm the feasibility of implementing best practices.

Tiffany Julien of FHWA noted that the Office of Freight Management and Operations at FHWA is potentially interested in funding the implementation of strategies.

For more information, contact Juan Carlos Villa at j-villa@tamu.edu.

Transportation Infrastructure Finance and Innovation Act (TIFIA)

Cheryl Jones of FHWA presented about the Transportation Infrastructure Finance and Innovation Act (TIFIA). She noted that this is an important act, given that traditional funding sources are not sufficient to meet the demand for transportation infrastructure improvements.

TIFIA Overview

Congress passed TIFIA in 1999 in order to leverage limited Federal resources and stimulate capital market investment for surface transportation projects with significant public benefits. TIFIA helps fill capital market gaps for secondary or subordinate capital, and it is a flexible, "patient" investor.

TIFIA provides three types of credit assistance:

- Secured (direct) loan, with a maximum term of 35 years from substantial completion. Repayments must start 5 years after substantial completion.

- Loan guarantee, which guarantees a project sponsor's repayments to non-Federal lender. Loan repayments to lender must commence no later than 5 years after substantial completion of project.
- Line of credit, a contingent loan available for draws as needed up to 10 years after substantial completion of project.

The most common form of assistance that TIFIA provided from 1999 to 2015 was the secured (direct) loan. The five year deferral period and low interest rates have driven the program's success, underscoring its importance. TIFIA has executed agreements across the U.S., including in border states. The State Route 125 project in southern California is one example directly related to border truck traffic.

For project sponsors, the benefits of TIFIA include long-term, fixed-cost, permanent, up-front financing; flexible amortization; no pre-payment penalty; and low interest rates. As of August 31, 2015, the TIFIA interest rate was 2.87% regardless of credit rating.

Eligible sponsors can be from the public or private sector. Examples of eligible projects include highways; bridges; ITS; intermodal connectors; transit, rail, intercity bus vehicles and facilities; and freight transfer facilities. Eligible projects must have anticipated project costs of more than $50 million. TIFIA typically will fulfill a maximum of 33 percent of the reasonably anticipated eligible project costs. To secure TIFIA financing, the project must have a dedicated revenue source, such as tolls or other user fees, which are pledged to secure debt service payments for both the TIFIA and senior debt financing.

The Moving Ahead for Progress in the 21st Century Act (MAP-21) authorizes $1.75 billion over 2 years to cover the subsidy cost of providing credit assistance. TIFIA sets aside a portion of this funding for each project based on its level of risk. As a rule of thumb, $1 in budget authority can be leveraged to provide $10 in credit assistance. The remainder of the loan amount is borrowed from U.S. Treasury. USDOT estimates that under MAP-21, TIFIA could extend $17 billion in credit assistance.

Applicability to the Border

For integrated projects that span international borders, the TIFIA Joint Program Office may be able to finance a portion of the project within the U.S. If part of the financing for a project comes from a foreign entity, there a number of other potential questions that may arise. The TIFIA Joint Program Office has not yet made a determination on whether foreign sources of financing would be acceptable for TIFIA requirements, or whether the foreign portion of the cost for a joint project could count toward the total cost in the calculation that determines the maximum 33 percent of total project costs that TIFIA can support. The TIFIA Joint Program Office is currently investigating these questions for a project on the U.S. – Canada border.

TIFIA Review Process

Detailed information on the TIFIA application process is available online at: www.transportation.gov/tifia/applying. With a rolling application process, USDOT encourages projects to submit a letter of interest when the project is able to provide sufficient information to satisfy statutory eligibility requirements such as creditworthiness and readiness to proceed. Figure 2 illustrates

initial steps in the TIFIA application and review process. Figure 3 illustrates TIFIA documentation requirements.

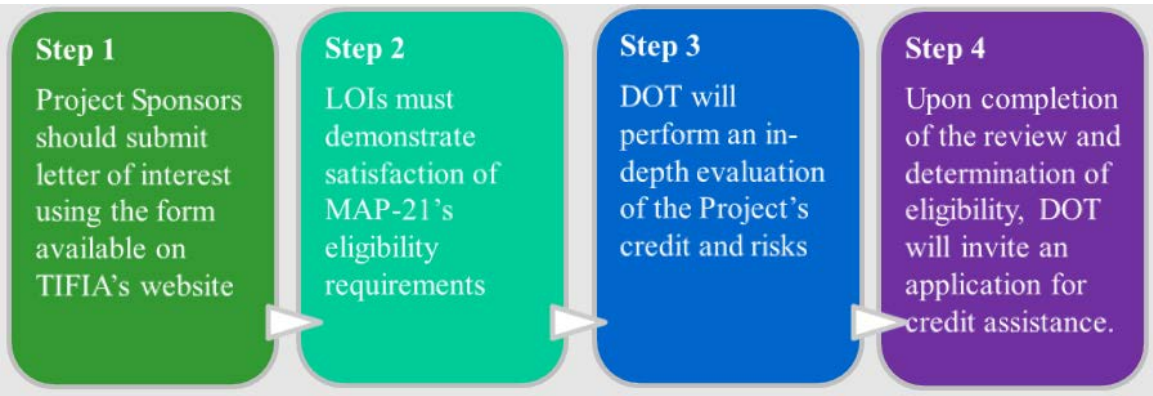


Figure 2. Initial steps in the TIFIA application and review process.
Source: USDOT Office of Innovative Program Delivery

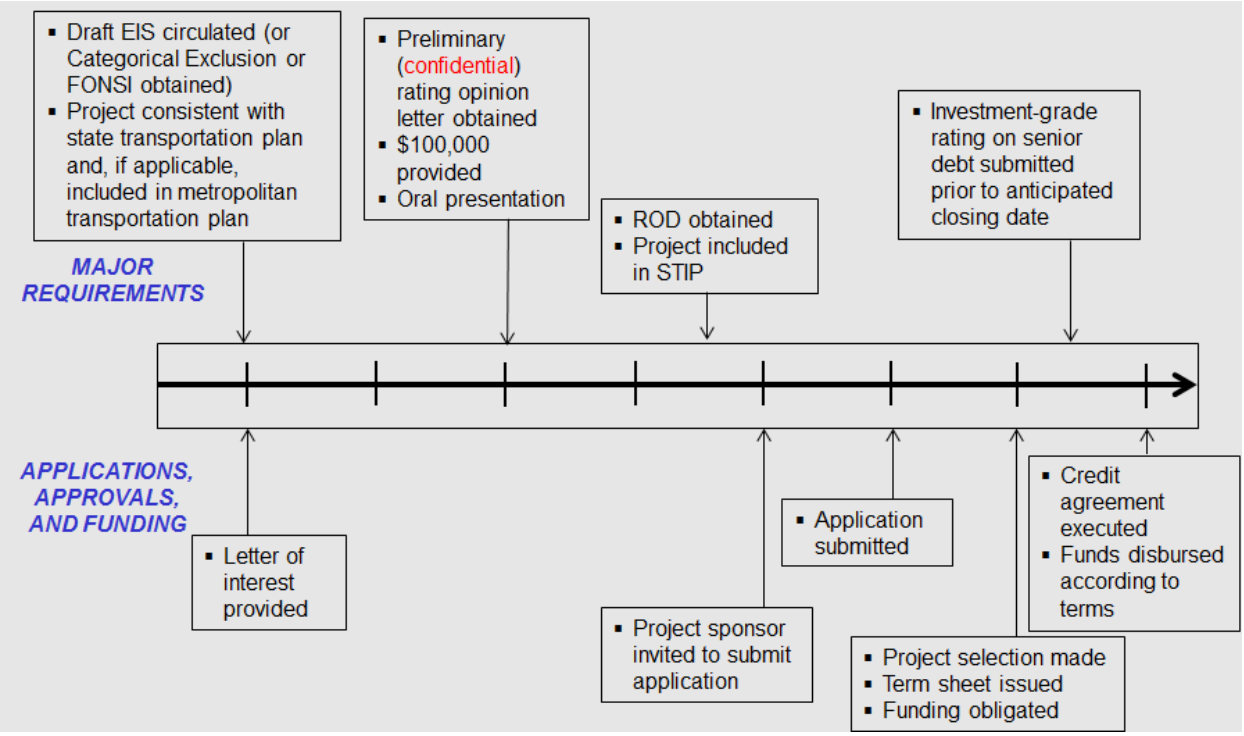


Figure 3. TIFIA documentation requirements
Source: USDOT Office of Innovative Program Delivery

The purpose of the initial review is to identify major issues that could prevent a project from reaching financial close, such as problems related to eligibility, statutory or regulatory limitations, readiness, budget, or credit.

In the case of a public-private partnership, the public sponsor may submit a letter of interest on behalf of the concessionaire and ultimate borrower. The TIFIA Joint Program Office will work with the public

sponsor on indicative terms that can be provided to bidders, and will engage earlier in the project development cycle. The TIFIA Joint Program Office will also need to evaluate the concessionaire's plan of finance and application before negotiating a loan agreement.

In the initial review, a multimodal technical team reviews the information and presents it to USDOT leadership. USDOT then asks projects that are ready to advance to submit creditworthiness information. USDOT does not want to require a sponsor to submit money or commit resources if there are significant questions surrounding the viability of a potential loan. The information used to judge creditworthiness includes a financial plan, financial model, revenue pledged to TIFIA, indicative rating, and a down payment of at least $100,000 toward costs. To complete the creditworthiness review, the TIFIA Joint Program Office and its Financial Advisor evaluate the project's finance plan, performance detailed financial calculations, evaluate the legal structure, recommend credit protections, and assess the strengths and weaknesses of the project.

If they determine that the project is creditworthy, the project proponent will be invited to submit an application. Application requirements include final documentation of material submitted in the letter of intent and creditworthiness phases, as well as additional documentation of the applicant's organizational structure, legal authority, financial condition, and prior experience. The TIFIA team evaluates the application and submits recommendations to the USDOT working group and credit council. Pending concurrence, the Secretary would then direct the TIFIA Joint Program Office to negotiate a credit agreement and extend credit assistance on acceptable terms and conditions.

The negotiation of the TIFIA loan agreement includes two primary documents, the term sheet and the credit agreement. After these documents have been finalized, the TIFIA Office finalizes the loan and works with Office of Management and Budget (OMB) to apportion the funds.

For more information about TIFIA, contact Cheryl Jones (cheryl.jones@dot.gov) or visit http://www.transportation.gov/tifia.

U.S. Customs and Border Protection Alternative Funding Programs: Reimbursable Services and Donations Acceptance

Garrett Wright of U.S. Customs and Border Protection (CBP) presented about CBP alternative funding programs. He set the context by noting that Federal appropriations have not kept pace with CBP's land port of entry infrastructure needs. Until recently, CBP has lacked the legal authorities and program framework needed to entertain partnership opportunities. Figure 4 shows annual Congressional land port of entry appropriations from fiscal years 2007 to 2015.

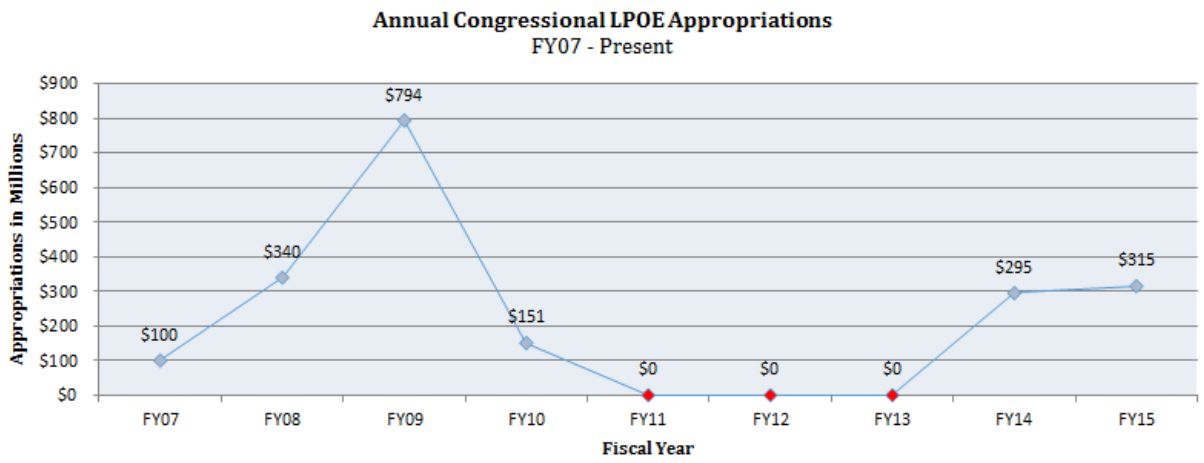


Figure 4. Annual Congressional land port of entry appropriations from fiscal years 2007 to 2015
Source: U.S. Customs and Border Protection

Section 559 of the U.S. *Consolidated Appropriations Act, 2014*, authorizes CBP to obtain alternative sources of funding through a pilot program with a five year duration beginning in 2014. This authority allows the agency to support requests for expanded services as well as improvements to infrastructure through both reimbursable service agreements and donation acceptance authority, respectively. Reimbursable services under Section 559 include customs, immigration, and agricultural processing; salaries for additional staff; and overtime expenses at airports. The new donation acceptance authority provides even greater flexibility, allowing CBP and the General Services Administration (GSA) to accept donations of real or personal property or non-personal services to be used for construction, alterations, operation, or maintenance of a new or existing port of entry. They cannot accept donations on or for foreign soil, or donations directed at existing GSA leased locations. The agencies developed a framework that describes procedures and criteria that they use to receive, evaluate, and accept donation proposals. It is available at: www.cbp.gov/document/guidance/section-559-donation-acceptance-authority-proposal-evaluation-procedures-and.

In fiscal year 2014, the program received seven donation proposals, all for the southern border. CBP evaluated them for operational efficacy and viability and accepted proposals in three Texas cities: Donna, El Paso, and Pharr, as shown in Table 2. CBP accepted these three proposals into the initial planning process and is working with the applicants and stakeholders to turn the proposals into executable projects. CBP is also summarizing lessons learned based on the 2014 call for proposals in order to identify future improvements.

Table 2. Proposals accepted in 2014
Source: U.S. Customs and Border Protection

Selected Donors	Targeted Location	Proposed Scope
Donna, Texas	Donna land port of entry	Installation of new inspection facility and technologies to facilitate outbound commercial vehicle inspections.
El Paso, Texas	Ysleta land port of entry	Removal of existing traffic island and construction of new roadways to facilitate commercial traffic flow.
Pharr, Texas	Pharr land port of entry	Construction of a truck staging area, two new inbound commercial inspection booths, two new commercial exit booths, and agricultural inspection lab build-out.

The fiscal year 2016 proposal submission period is expected to open on October 19, 2015. More information on the donation acceptance program, including upcoming webinar opportunities and guidance/instructions for submitting proposals, is available at: http://www.cbp.gov/border-security/ports-entry/resource-opt-strategy/public-private-partnerships/donation-acceptance-program. Interested stakeholders may submit questions to: 559donationsacceptance@cbp.dhs.gov.

Transportation and Pedestrian Projects along the Border in Arizona

Rudy Perez of the Arizona Department of Transportation (ADOT) provided an update on Arizona border infrastructure projects included as part of the regional border master plan.

State Route 189 Environmental Assessment and Design Concept Report

State Route 189 connects the Mariposa land port of entry to warehouse and manufacturing centers in Nogales, Arizona. The area surrounding the corridor is the main commercial processing location for Arizona and handles nearly 50 percent of all produce entering the U.S. from Mexico. Figure 5 shows the location of State Route 189.

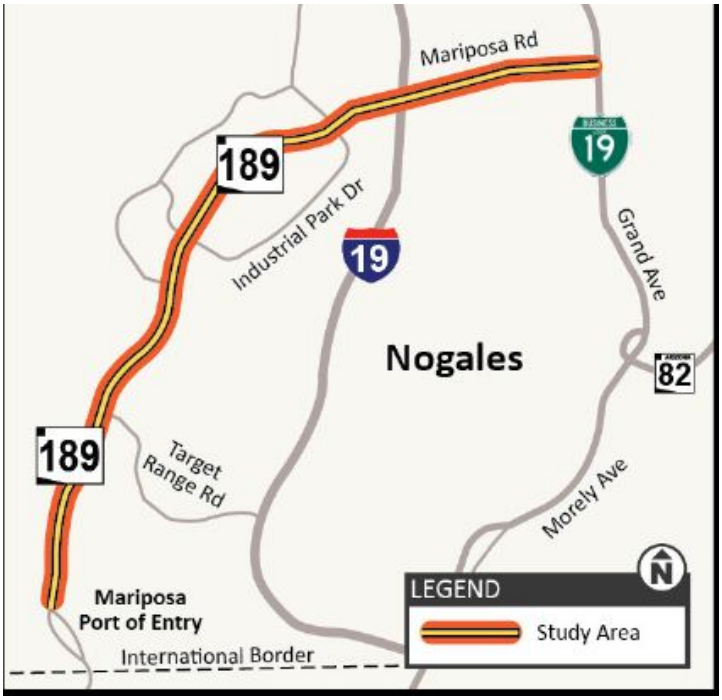


Figure 5. State Route 189 connects the Mariposa port of entry to key locations and conduits in Arizona.
Source: ADOT

The purpose of the project is to improve capacity on State Route 189 in order to accommodate the completed expansion of the Mariposa port of entry and to improve major intersections, including the I-19 intersection.

ADOT is conducting an Environmental Assessment (EA) and a Design Concept Report for the project. The Design Concept Report contains major design features of the preferred alternative (30% of final design), estimates cost, and complements the EA. Both products are underway, with final EA and Design Concept Report anticipated for summer 2016.

ADOT estimates that $64 million will be available for construction in fiscal year 2021. The agency is discussing alternative financing mechanisms to speed up the process. Interim improvements at the intersection of State Route 189 and Interstate 19 are intended to handle the volume and capacity needs of the next five years.

State Route 189 Mariposa Port of Entry Pedestrian Underpass

ADOT has begun construction on a pedestrian underpass on the east side of State Route 189, which will enable pedestrians to safely travel to the port of entry. The underpass should be complete by December 2015.

San Luis Ports of Entry

A widening project will reconstruct and widen Avenue E, which connects the San Luis II port of entry to State Route 195 or Main Street. It will widen two miles of the roadway to include two lanes in each

direction, including paved shoulders, a raised median, and drainage improvements. The project is nearing completion.

San Luis street improvements project, completed June 2015, has significantly improved traffic circulation, access to downtown businesses, and pedestrian safety. The changes include the conversion of several streets to one way; the creation of two roundabouts on Main Street; and the addition of parking, benches, and striping in the downtown shopping district.

For more any information about ADOT's border transportation projects, contact Rudy Perez at rperez@azdot.gov.

Infrastructure Financing Study by North American Development Bank

Alex Hinojosa, Deputy Managing Director of NADB, presented about an infrastructure financing study conducted by NADB at the request of the Mexican and U.S. Presidents and senior agency officials. The NADB is a binational organization wholly owned by Mexico and the U.S., and its purpose is to finance border infrastructure that has an environmental benefit.

The purpose of the financing study was to:

- Compile a comprehensive list of all of the land ports of entry (existing and planned) on the U.S. – Mexico border.
- Map the process of development and approval.
- Investigate financial mechanisms for funding port of entry projects.
- Recommend actions to expedite approval and authorization.

The study did not prioritize projects, investigate public expectations, or examine operational efficiencies. The study also did not include a discussion of Section 559 of the U.S. *Consolidated Appropriations Act,* because the proposed regulation to implement that Act was not final at the time. Future studies may address the Section 559 process as well as operational efficiencies.

The preliminary draft of the report is available at: www.nadb.org/pdfs/publications/NADBANK%20POE%20English%20091015.pdf. There will be a webinar in early October to solicit feedback on the draft. Contact Alex Hinojosa (ahinojosa@nadb.org) to provide input or request information about the webinar.

After finalizing the report, the next step will be to discuss a common platform that all parties can use to share information and documents related to various steps in the project development process. The NADB hopes to work with all parties to encourage the use of such a platform to facilitate information exchange and streamline project development.

2013-2015 Work Plan

Regional Border Master Plan for New Mexico/Chihuahua

Randall Soderquist of the New Mexico Department of Transportation (NMDOT) presented about the Regional Border Master Plan for New Mexico/Chihuahua. The executive summary, draft report, and appendices are available in English and Spanish at: http://nm-chihbmp.org. The border master plan study team is reviewing final comments. Comment review will be complete by early October.

Similar to other border master plans, the objectives of the plan are to develop criteria for prioritizing border transportation projects and to institutionalize binational dialogue among local, State, and Federal stakeholders in the U.S. and Mexico for a collective understanding of needs prioritization.

The scope of work encompasses the following:

- Task 1: Establish process for stakeholder participation including a bilingual promotional plan, workshops, and a bilingual website.
- Task 2: Develop and manage a policy advisory committee and technical working group.
- Task 3: Conduct public outreach through workshops and meetings.
- Task 4: Conduct an inventory of existing and future projects.
- Task 5: Define and approve evaluation criteria and apply them to rank short, medium, and long-term projects over a 20 year time horizon.
- Task 6: Develop a monitoring system to monitor progress and implementation of projects between future updates.
- Task 7: Prepare draft and final border master plan documents.

Numerous stakeholders on both sides of the border are involved in the development of the border plan. U.S. stakeholders include CBP, DOS, GSA, FHWA, International Boundary and Water Commission, NMDOT, New Mexico General Services Department, and New Mexico Motor Transportation Police. On the Mexican side, stakeholders include SCT, SRE, General Customs Administration, Institute of the Management and Valuation of National Assets, Tax Administration Service, National Migration Institute, Secretariat of Agriculture, Chihuahua Industry Representatives, Chihuahua Ministry of Communications and Public Works, and Ministry of Environment and Natural Resources.

The policy advisory committee and technical working group collectively held seven key meetings from October 2014 to July 2015.

Figure 6 shows the focus area for the plan, which encompasses three existing shared land ports of entry and a fourth potential future land port of entry. Figure 7 shows the area of influence for the plan, which extends to cover a broader region.

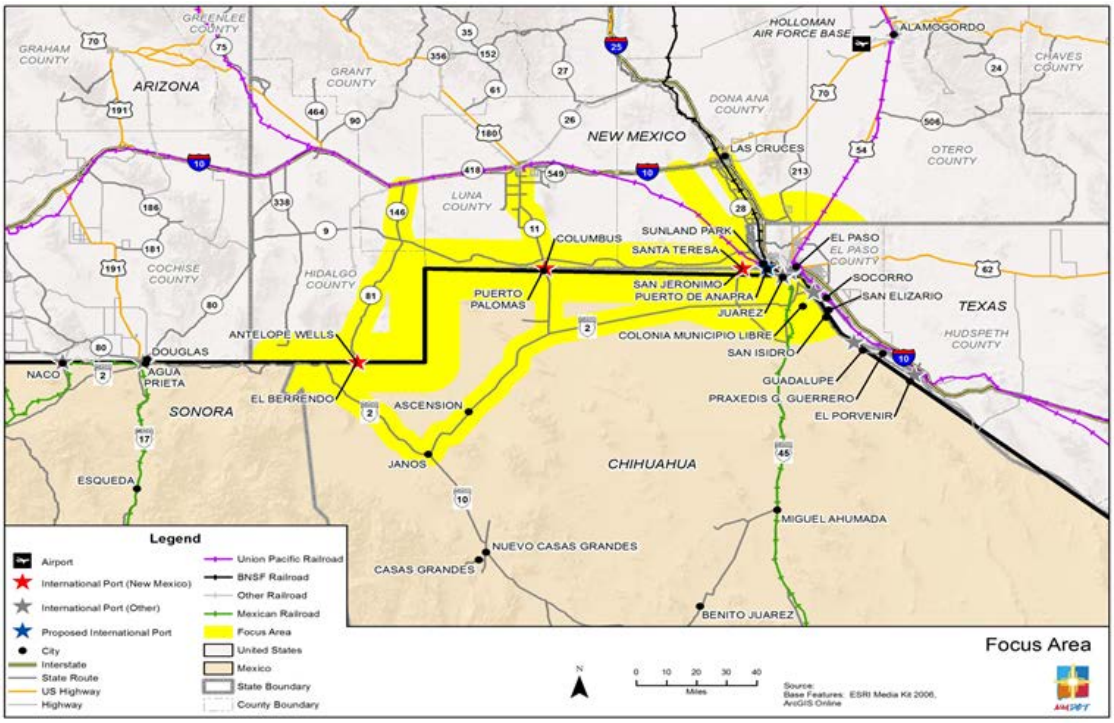


Figure 6. Focus area for the New Mexico/Chihuahua Regional Border Master Plan

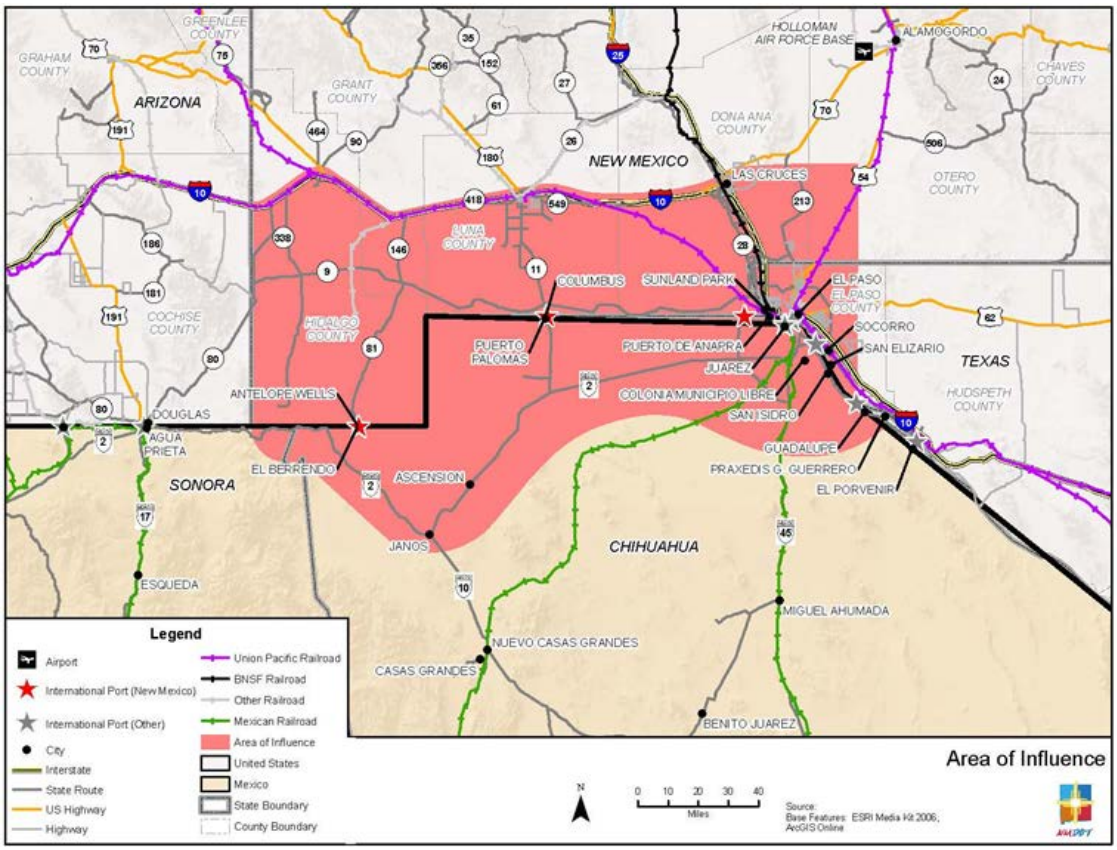


Figure 7. Area of influence for the New Mexico/Chihuahua Regional Border Master Plan

The planning process collected environmental, socioeconomic, and facility data for land ports of entry and associated multimodal infrastructure. Evaluation criteria for projects comprised the following six categories:

- Cost effectiveness
- Project readiness
- Capacity and congestion
- Connectivity to land ports of entry (for surrounding infrastructure)
- Regional benefit
- Binational coordination

The study team led the technical working group through a series of exercises designed to develop a weighting structure for the evaluation criteria. The exercise focused on establishing individual priorities among categories and resulted in weighting the categories on a percentage-based scale of 1-100. The technical working group created three separate weighting systems (assigning varying importance to each of the above six categories). There is one weighting system for land ports of entry, one for rail infrastructure, and a third for all other multimodal infrastructure.

The outcomes of the regional border master plan process include a binational evaluation criteria for border transportation projects and a prioritized list of projects. In addition, the border master plan includes recommendations to help stakeholders implement the criteria and project list in regional and local planning processes, including a description of available funding sources.

Based on the New Mexico/Chihuahua border planning process, Randall shared the following recommendations for future regional border master plan activities:

- The New Mexico and Chihuahua governments should form an implementation monitoring committee representing the highest levels of the governments and key stakeholders, which would meet regularly to review the status of recommended projects and assess progress toward goals.
- NMDOT should continue to work with SCT to obtain a more fully developed travel demand model (TDM) for the area of influence within Chihuahua. The TDM should be integrated with the next generation NMDOT TDM to develop a comprehensive Focus Area TDM for the New Mexico-Chihuahua Border Region.
- NMDOT should work with Federal and State agencies in the U.S. and Chihuahua to develop comprehensive wait time statistics for each of the land ports of entry in the New Mexico-Chihuahua Border Region.

For more information, contact Randall Soderquist at randall.soderquist@state.nm.us.

Intelligent Transportation System (ITS) Activities

Summary of Mexican ITS Capacity Building and other Coordination Efforts with USDOT

Marco Frías of SCT summarized U.S. – Mexico collaboration on ITS. In 2014, SCT and USDOT formed an agreement that delineated an agenda for Mexico and the U.S to collaborate on ITS architecture. As part

of that, SCT is working to better align the Mexican ITS architecture with U.S. architecture. In July 2015, the California Department of Transportation (Caltrans) hosted a workshop for U.S. and Mexican agencies; one of the action items from that workshop was for Mexico to organize a forum for various firms to participate in the development of protocols for connected vehicles. SCT has been meeting weekly with Caltrans to make the protocols more comprehensive and coordinated and to establish the installation locations for devices. Eventually all of the highways in Mexico will follow these protocols, which will make the flow of cargo between the two countries more efficient.

Status of ITS Activities in Tijuana and Other Border Regions

Marco Frías of SCT discussed plans for the Tijuana traffic control center. It covers all of the ports of entry between Tijuana and San Diego, one of the most congested areas along the border. The objectives of the center are to capture and disseminate traffic and security information in the region, primarily in the following areas:

Traffic information

- Traffic maps
- Travel times
- Map of traffic accidents
- Maintenance activities or other road changes
- Closed-circuit television cameras
- Dynamic messages
- Reports of police incidents
- Border wait times
- Border video cameras.

Emergency information

- AMBER alerts
- Weather information
- Security information

Otay Mesa II will be the first port of entry with a dynamic messaging system, which will provide travelers with real-time information to inform decisions about where, how, and when to cross. The purpose is to improve the efficiency of crossings. The development of this system required a great deal of collaboration between SCT and Caltrans. The Mexican information center will be aligned and linked with the one in San Diego. The full conceptual plan for the project will likely by complete by spring 2016, and the full system will be operational by the end of 2016.

ITS Concept of Operation for Otay Mesa East-Otay II

Mario Orso of Caltrans provided an update on project activities for the proposed Otay Mesa East crossing. By the end of 2015, Caltrans expects to acquire the majority of the land that will be necessary for the project. The first half of the State Route 11 project will be complete and open to traffic by late November 2015, and it will include some of the ITS infrastructure that will connect to the Mexican ITS

infrastructure. Caltrans will also begin the connection between State Route 11 and 195. The overall vision is to connect the San Diego/Tijuana Border crossings as a system, including not just the ports of entry but also the transportation facilities that lead to them. Caltrans is in collaboration with CBP to consider new ideas that would make it easier for CBP to process vehicles efficiently. The solution will likely include lane segmentation and dynamic messaging.

Freight

Scenario Planning of Future Freight and Passenger Traffic across the U.S. – Mexico and U.S. – Canada Borders

Travis Black of FHWA presented about a scenario planning study regarding multimodal North American freight and passenger flows. Tricia Harr, team leader for the FHWA Border and Interstate Planning team, will take over as the project manager for this study. Figure 8 shows how "scenario planning" compares to other methods of planning. Scenario planning addresses a long planning horizon and considers a broad range of possible alternative futures.

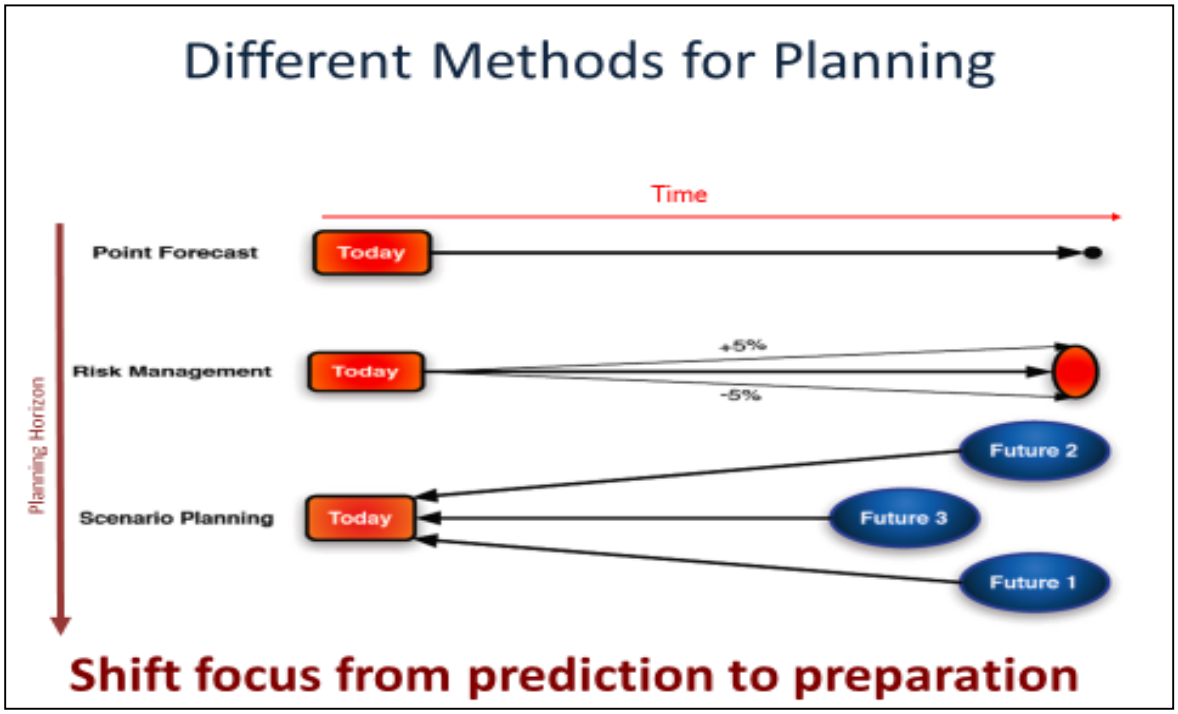


Figure 8. Comparison of different planning methods
Source: FHWA and CDM Smith

This study supports several executive priorities, including North American Leaders Summit commitments to improve cooperation on transportation and freight planning, the 21st Century Border Initiative, the BTB Action Plan, and the U.S.–Mexico High Level Economic Dialogue, which has focused on identifying key logistics corridors. This study supports all of these priorities and provides tools for use in border master planning. The study will investigate a broad North American perspective as well as regional perspectives, and the final report will be ready in summer 2016.

Primary objectives of the study include the following:

- Develop detailed micro- and macro-level multimodal freight and passenger flow projections between the U.S. and Canada, the U.S. and Mexico, and Mexico and Canada.
- Develop, to the extent possible, a common understanding between and within U.S., Canadian, and Mexican agencies regarding future scenarios. Develop common projections for future statistics on population, business, and traffic for use in planning efforts.
- Display the projections in a visualization tool compatible with the Office of Planning, Environment, and Realty GIS Planning Tool (HEPGIS).
- Develop a framework to look at North American multimodal transportation flows, building on the existing and ongoing research in Canada, Mexico, and the U.S.
- Identify and document multimodal corridor and gateway needs, trends, and opportunities for North American competitiveness.

The study included a series of workshops in early 2015 in Washington, D.C., Mexico City, and Ottawa, including public and private sector participants. The purpose of the workshops was to gather insights into the underlying drivers of cross-border flows and validate the proposed direction of the study.

The project team is using four overarching alternative scenarios developed by the Massachusetts Institute of Technology Center for Transportation and Logistics as part of the National Cooperative Highway Research Program (NCHRP) Report 750, *Strategic Issues Facing Transportation, Volume 1: Scenario Planning for Freight Transportation Infrastructure Investment*. The four scenarios are:

- **Global Marketplace**—A highly competitive and volatile world where open, vigorous trade between virtually all nations has led to market-based approaches to most contemporary challenges.
- **One World Order**—A highly regulated and managed world. Facing global scarcity of key resources, nations establish international rules to ensure their fair and sustainable use. Global trade thrives, but the very visible hand of regulation shapes its course.
- **Millions of Markets**—A world where advanced technological breakthroughs have enabled the U.S. (and other countries) to become highly self-reliant in terms of energy, agriculture, manufacturing, and other needs. There is increased migration towards smaller urban areas supported by nearby regional innovation hubs that can manufacture highly customized goods.
- **Naftástique!**—A world where trade has moved away from a single global market toward a number of emerging regional trading blocs.

By comparing the scenarios, the study team can determine implications about the future, which will inform the strategies and approaches that are most likely to be effective. The implications are either robust or contingent. Robust implications are those strategies or approaches that have similar outcomes across all of the scenarios. Contingent implications are those strategies or approaches that make sense in some scenarios—but not in all. Robust implications will fall into one of three categories:

- **No Brainers** are strategies that would make sense in all scenarios.

- **No Regrets** are strategies that are beneficial in some scenarios, and not detrimental in any.
- **No Gainers** are strategies that would not be desirable in any scenario.

Contingent implications are more ambiguous, and the study will seek to understand why they are contingent.

Following the workshops, the study team developed a model that predicts flows for each scenario. It includes trend analysis for a base year with future points forecast based on past history, and then includes deviations for each of the scenarios. Figure 9 shows the border subareas for which the scenario planning study plans to develop projections.

The study team also developed a draft modeling framework that details the assumptions, data, and process behind the model. The consultant team, in coordination with FHWA, is contacting U.S., Mexico, and Canada cross-border agencies to discuss the project and solicit feedback on the draft modeling framework. The team plans to complete all stakeholder outreach by October 2015.

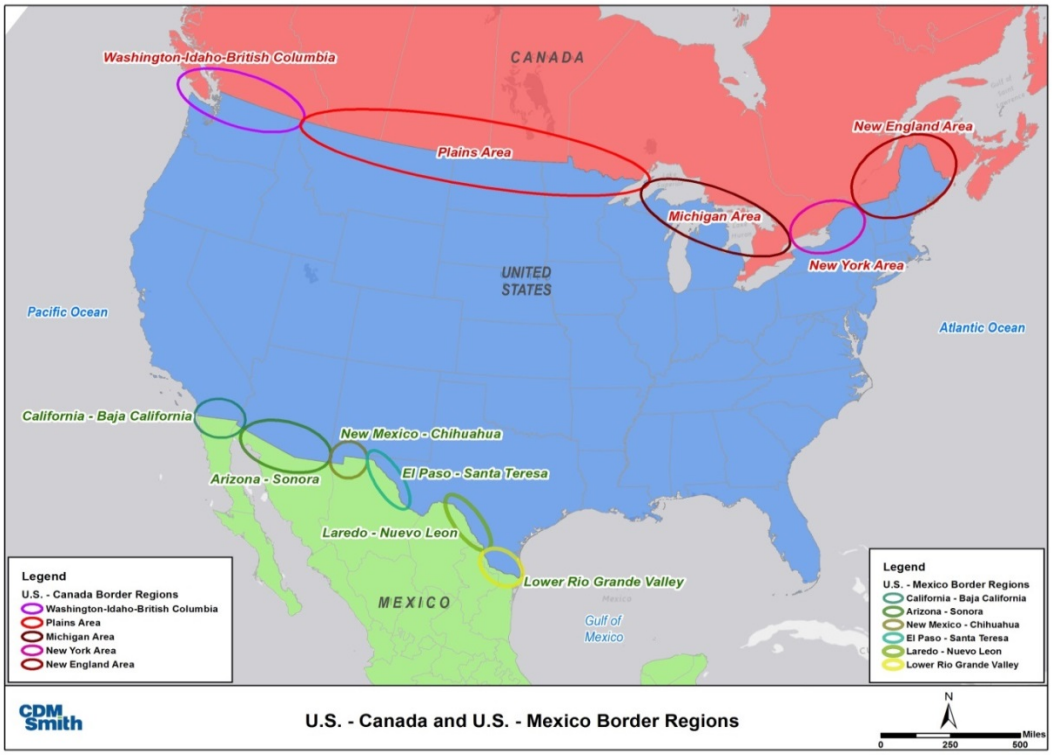


Figure 9. Border subareas for which the scenario planning study will develop projections
Source: FHWA and CDM Smith

The remaining next steps are as follows:

- Conduct outreach on the modeling framework (October 2015)
- Finalize the modeling framework (November 2015)
- Obtain Freight Analysis Framework data (December 2015)

- Develop baseline forecasts (January 2016)
- Develop scenario forecasts (January 2016)
- Conduct a second round of workshops in Washington DC, Ottawa, and Mexico City (February - March 2016).
- Develop a visualization tool so that users can see results of the freight and passenger flows graphically under each scenario (spring – summer 2016)
- Produce a final report (summer 2016)

U.S. – Canada Freight Planning Peer Exchange Summary

Tiffany Julien of FHWA presented an update on a U.S. – Canada freight planning peer exchange that took place in Michigan in 2015. The peer exchange came about as the result of a July 2014 discussion between the leadership from USDOT and Transport Canada. The purpose was to establish a coordinated binational dialogue about the following freight planning, freight data collection, and data sharing processes.

The peer exchange took place over two days. The first day focused on presentations by the participants. The second day was a working session to identify opportunities for advancing U.S. – Canada collaboration. The participants agreed upon the following actions that could improve freight planning and efficient movement of goods across the border:

- Foster and promote the development of informal partnerships.
- Promote the development of regional border master plans.
- Create an online clearinghouse for border data, regulations, and other information.
- Identify strong champions on both sides of the border.
- Create metrics for border crossing performance measurement.

North American Transportation Statistics Group Update

Tiffany Julien of FHWA presented an update on the North American Transportation Statistics group. She is the liaison between the JWC and the North American Transportation Statistics group. At a July 2015 meeting, the group discussed existing data and data needs to support decisionmaking and the efficient movement of goods across the borders. See page 23 for a related presentation on the Border Fluidity Index.

Southern Arizona to Central Mexico Freight Corridor Study and Needs Analysis

Gail Lewis of ADOT and Marco Frías of SCT presented about a proposed binational freight corridor study and needs analysis that would focus on the corridor from southern Arizona to central Mexico. Nogales is the main port of entry for this corridor. The proposed study would also investigate economic development nodes along the corridor. The corridor is important not only for manufacturing, but also for agriculture and natural resources. Much of the Mexican portion of the corridor traverses rural areas, where many roads have only two lanes. On both sides of the border there is a need for improvements in transportation infrastructure. In addition, a military checkpoint at Querobabi causes delays for freight traffic.

SCT and ADOT have agreed to sign a memorandum of agreement to advance this project. FHWA and a number of private entities have also expressed interest in the study and are potentially willing to contribute.

Participants discussed the importance of creating performance metrics for the border, including metrics for short, medium, and long-term planning projects. Participants also discussed the need to consider the possibility of latent demand in evaluating corridor capacity and needs. Latent demand could be addressed as part of the scenario planning study summarized on page 18.

U.S. – Mexico Freight Workshop Action Plan Status/ Cross-Border Data Sharing and Freight Data Catalog

Sylvia Grijalva of FHWA discussed cross-border data sharing. At the recent freight data peer exchange in San Diego, California, participants committed to follow up on three priorities:

- Border Fluidity Index (see related presentation on page 23)
- U.S. – Mexico cross-border data sharing improvements to aid with modeling. Agencies need a common understanding of the data that is currently being exchanged, necessary data that is unavailable (not collected), collection methodologies, methods for exchanging data, and methods and warnings for combining separate data sources. The group working on this project plans to develop a list of relevant data types and associated recommendations for more transparent exchange of each type. The group may also add a field to indicate the cost of generating various types of data. The group would like feedback from the JWC on this project, and whether it will suit the needs of JWC members. In the meantime, the group will continue scoping the project and will report to the JWC again at the next meeting.
- A data catalogue that would describe the data that exists along with its location, ownership, collection methodology, and associated analysis tools. The group will discuss this in more detail after completing the aforementioned project on cross-border data sharing.

North American Free Trade Agreement (NAFTA) Implementation Updates

Salvador Monroy of SCT presented updates on several items related to implementation of the North American Free Trade Agreement (NAFTA).

Harmonization and Mutual Recognition of Vehicle Inspections

In May 2015, SCT updated the Mexican Official Standard NOM-068-SCT-2-2014. This standard specifies the physical and mechanical specifications for passenger and freight vehicles to ensure safe movement on roads, and it takes into account U.S. (49 CFR §396.17) and Canadian standards. This allowed the Federal Road Directorate General of the Secretariat for Transport of SCT and the Federal Motor Carrier Safety Administration (FMCSA) of USDOT to agree July 2015 on mutual recognition of inspections. Mutual recognition will eliminate duplication of effort and reduce the time needed to inspect vehicles that cross the border.

Updated North American Emergency Response Guide

The Mexican, U.S., and Canadian agencies are updating an emergency response manual as part of NAFTA. They are working on the 2015 edition, which will be printed by 2016.

Cross-Border Motor Carrier Regulatory Update

The agencies are also working on updating regulations for cross-border vehicle traffic. Currently there are two regulatory options to provide cross-border services between Mexico and the U.S.:

Shuttle services: To operate in Mexico requires a permit issued by SCT. To gain access to U.S. commercial areas requires authorization through FMCSA (Mexican Certificate of Registration for Foreign Motor Carriers and Foreign Motor Private Carriers under 49 U.S.C. 13902).

Long-haul transportation: The U.S. – Mexico Cross-Border Long-Haul Trucking Pilot Program between Mexico and the U.S. concluded in October 2014. The program evaluated the ability of Mexico-based motor carriers to operate safely in the United States beyond the municipalities and commercial zones along the border. The results demonstrated that Mexican carriers operated under safe conditions, similar to those of U.S. carriers. In January 2015 USDOT established standard rules for Mexican carriers, allowing them to apply for authority to conduct long-haul, cross-border trucking services in the U.S., and marking a significant milestone in implementation of NAFTA. On September 3, 2015 FMCSA authorized Mexican carrier Alfredo Contreras Jáuregui for long-haul operations in the U.S. This company is the first to obtain approval following the pilot program. Mexico has also been issuing long haul permits to companies from the U.S. and Canada. This means that what had been negotiated as part of NAFTA is now in full effect.

The last possibility for expansion of regulations is to allow for the possibility of Mexican and U.S. companies with foreign capital to provide cross-border services for cargo and passengers. The agencies are waiting for an outgrowth of NAFTA to generate a standard agreement and generalized set of regulations.

The Federal Road Directorate General of the Secretariat for Transport of SCT and FMCSA formed a solid partnership in advancing the aforementioned activities, and the exchange of information has been active and dynamic. The accomplishments thus far would not have been possible otherwise.

Border Fluidity Index

Eduardo Hagert of TxDOT and Juan Carlos Villa of the Texas Transportation Institute presented about border crossing trend analysis, the Border Fluidity Index, and a port of entry selection tool.

Freight-specific performance measures help to identify needed transportation improvements and monitor their effectiveness. TxDOT and FHWA are interested in developing further performance measures for freight transportation at land ports of entry, using data from the Border Crossing Information System, which provides real-time and historical information on wait and crossing time at all major ports of entry at the Texas-Mexico border.

The objectives of this project are to:

- Examine the truck wait and crossing time data, performing trend and congestion analyses.
- Complement the border performance indicators with additional data to develop a supply chain-based Border Fluidity Index.
- Develop a tool for shippers and carriers to analyze alternative ports of entry for crossing based on travel and crossing times.

Part one of the study will analyze information stored in the Border Crossing Information System to identify trends by port of entry and develop scenarios and reports. This will include analysis of data from seven ports of entry, including metrics about border wait and crossing time by day of the month, day of the week, and time of day. The team is also soliciting additional suggestions on metrics that should be included. The study team will conduct a statistical analysis on the historical data to identify trends that could provide information to shippers and carriers. The team will then develop a report summarizing the results of part one of the study. This could benefit public and private stakeholders and help them identify potential border crossing time savings.

Part two of the study will borrow the "fluidity" concept developed by Transport Canada and implemented by FHWA. "Freight fluidity" is a broad term referring to the characteristics of a multimodal freight network in a geographic area of interest, where any number of specific modal data elements and performance measures are used to describe the network performance (including costs and resiliency) and quantity of freight moved (including commodity value) to inform decisionmaking.

The study will adapt this fluidity concept to the cross-border environment and origin-destination supply chain concepts to create the Border Fluidity Index. The Border Fluidity Index will contain information on travel time, travel time reliability, and transportation cost. Figure 10 shows how factors in the Border Fluidity Index (time, travel time reliability, and cost) will apply to each segment of the cross-border trip.

The team will begin by creating a conceptual model for the Border Freight Index. The conceptual model will take into consideration best practices in measuring fluidity in various environments, border freight data needs and sources, and stakeholder input. The next task will be to develop a border fluidity index for select case studies, using six representative supply chains. For each supply chain, the study will collect a set of data elements through direct contact with shippers and carriers or other data suppliers that handle these supply chains. The study will create a baseline scenario to calculate the border fluidity index for each supply chain.

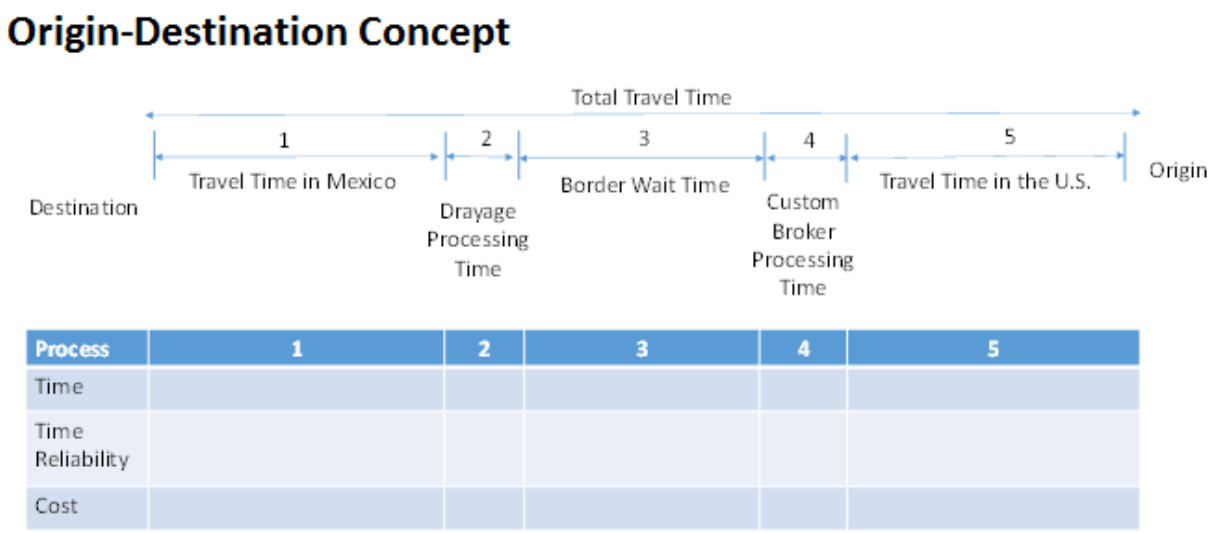


Figure 10. Factors in the Border Fluidity Index will apply to each segment of the cross-border trip.
Source: Texas Transportation Institute

Next, the phase two study will create a long-term implementation plan for the Border Fluidity Index. This will mean developing ways of collecting data in a systematic and consistent way. It will also mean working with U.S. and Mexican stakeholders to create a database to store the information and report the Border Fluidity Index on a regular basis. Finally, the phase two study will generate a summary report.

Phase three of the study will develop a scenario tool for shippers to select border crossings. For those regions that have more than one alternative to cross the border, it will create a simulation model to calculate travel time in the roadway network and crossing time at each port of entry. Shippers can use the simulation model to evaluate hypothetical scenarios and determine which port of entry provides more travel time benefits when dispatching their trucks. Phase three will also implement the port of entry selection model in the Border Crossing Information System website and prepare a final report.

The entire project should be complete by February 2017.

Wait Time Studies along the Border and Updates

This portion of the meeting focused on efforts to create automated systems to collect and disseminate information on border wait times. A peer exchange on this topic took place December 2014, and a summary report from that exchange is available at: https://www.borderplanning.fhwa.dot.gov/documents/BorderWaitTime/BorderWaitTimePeerExchange.asp. That report provides additional background and context for the presentations that follow.

Status of Texas Projects Including Data Dissemination and Blue Tooth Penetration Tests

Eduardo Hagert, of TxDOT, presented some updates on wait time studies in Texas.

Bluetooth penetration studies

Some automated systems for estimating border wait times use Bluetooth readers installed along the roadside, which identify the location of vehicles that have Bluetooth-enabled devices on board, such as

phones or tablets. Before using such a system an agency would typically conduct a penetration study to determine the typical percentage of the total population of vehicles in a given corridor that have at least one Bluetooth-enabled device on board. This allows the agency to understand the sample size relative to the size of the total population, which then allows the agency to estimate the level of uncertainty associated with wait time estimates. An estimate may not even be possible in areas with very low penetration rates.

Phase one of the TxDOT penetration study, which concluded June 2014, analyzed southbound and northbound penetration rates at 10 border crossings. The results indicated that Bluetooth-based estimation of passenger vehicle wait times would be feasible at 7 out of 10 ports of entry. The remaining three ports of entry had inconclusive results, spurring Phase two of the study, completed June 2015, which involved retesting and the addition of one additional port of entry to the list of those that are ready.

RFID studies

TxDOT also uses RFID readers to estimate border wait times for commercial vehicle traffic, and maintains a website that has up-to-date wait time information. TxDOT recently partnered with CBP to estimate the total travel time from the exit of Aduanas (Mexican customs) to the entry of CBP booths at all ports of entry on the Texas – Mexico border. In the future, the wait times reported on the website will report separate wait times for Free and Secure Trade Program (FAST) lanes, and different wait time estimates for non-FAST lanes.

Arizona Analysis of Bluetooth and Wi-Fi Penetration Rates for Measuring Wait Times of Passenger Vehicles and Border Wait Analysis at the Nogales-Mariposa Port of Entry

Analysis of Bluetooth and Wi-Fi Penetration Rates

Rudy Perez of ADOT reported on border wait time studies that investigated the penetration rates of Bluetooth and Wi-Fi technologies at six ports of entry on the Arizona – Mexico border. The purpose of the study was to determine whether penetration rates are sufficiently high to warrant the installation of permanent detection devices, and to determine the priority order for installation. Bluetooth and Wi-Fi have many similarities but also some important differences, as shown in Figure 11.

Bluetooth and Wi-Fi Similarities
Travel Time Reporting
Congestion Mapping
Origin-Destination Reports

Bluetooth	Differences	Wi-Fi
Continually "*Scans*" (Poll & Response)	**Sensor Detection Method**	Continually *Listens*
Low	**General Detection Rate**	High
High	**Re-Identification Rate**	Low*
In-Vehicle Systems	**Devices Primarily Detected**	Mobile Devices

*Detection & Re-Identification Increase with Slower Travel Speeds

Figure 11. Similarities and differences between Bluetooth and Wi-Fi, two technologies for detecting vehicles in automated wait time estimation systems
Source: ADOT and Lee Engineering

The study collected data over two days at each port of entry in June 2015. In a pilot test at the Nogales-DeConcinni port of entry, the study found that Wi-Fi penetration rates were higher than Bluetooth. ADOT decided to use Wi-Fi to collect data at the five remaining ports of entry. Figure 12 shows some sample results from the Douglas port of entry, where the average Wi-Fi penetration rate was 34 percent. The final report summarizing the results of the study will be complete in January 2016.

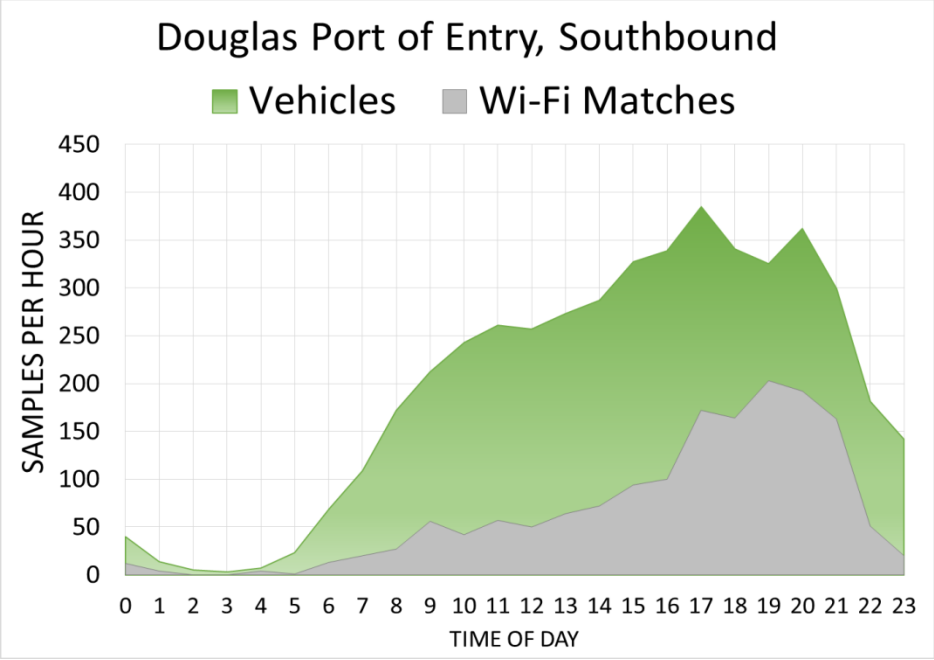


Figure 12. Graph showing the penetration rate of Wi-Fi at various times of day at the Douglas port of entry.
Source: ADOT

Nogales – Mariposa Border Wait Analysis

Rudy Perez of ADOT reported on this six month project, which should be complete by December 2015. The objective is to select one or more appropriate technologies to monitor border wait times for commercial vehicles; the study will test RFID and global satellite positioning (GPS) technologies. From the ADOT perspective, the benefits of RFID are that it is more cost effective and CBP and ADOT are already using it. The major concerns are that the data collected are not as precise, agreements must be established to install readers, and the information system must be more complex. Eventually the Border Crossing Information System will display real-time and archived border wait time data from the system. ADOT is in the process of purchasing equipment, and a final report will be complete by end of this year.

California/Baja California Southbound Cross-Border Wait Time Project

Mario Orso of Caltrans presented about a project to study southbound wait times at the San Ysidro port of entry. Caltrans will use call boxes to collect data and check the penetration rates for various technologies. Mario noted that it is likely that no single methodology can fulfill all of the data needs. At the proposed Otay Mesa East port of entry the plan is to implement dynamic pricing, which will require real-time data on border wait times, segmented by lane. Caltrans will have key updates on this project within 12 months.

Other Joint Working Committee (JWC) Activities or Studies

Border Infrastructure Finance Workshop

Sylvia Grijalva of FHWA and Marco Frías of SCT presented about the proposed border infrastructure finance workshop. The first border finance workshop took place in May 2013 in San Diego, California. JWC participants requested another follow up workshop on the topic and a committee has been working to plan the event, which will take place in San Diego January 20-21, 2016. FHWA and SCT will jointly lead the workshop. It will address the following principle themes:

- Funding sources and mechanisms and how to apply them (including TIFIA, CBP funding, and Transportation Investment Generating Economic Recovery (TIGER) grants)
- Risks associated with various funding sources
- Bridging and accommodating sovereign processes
- Case studies

The workshop will be customized to address the needs of participants. Contact Sylvia at sylvia.grijalva@dot.gov to provide input on the workshop agenda or to provide questions you would like panelists to address.

California Integrated Border Approach Study

Sergio Pallares of Caltrans presented about an integrated border approach study. Sergio set the context by noting that despite numerous past successes in improving the border transportation system in the California – Baja California region, there is still work to do. In particular, past efforts have focused on efficiency, and relatively less attention has gone toward addressing the impacts of the border transportation system on local communities. He identified several areas for concern, including:

southbound congestion, poor crossing experiences for pedestrians and bicyclists, multimodal conflicts, conflicts between pedestrians and local businesses, traffic enforcement issues, poor infrastructure, and other issues. He reminded the group that managing the border transportation system is a unique problem because complex legal, regulatory, and fiscal constraints make multi-agency project delivery difficult and each agency that works at the border has their own mission, vision, priorities, and processes.

Within this context, the goal of the California Integrated Border Approach Study is to promote new levels of partnership that:

- Address mobility, security, and environmental issues at California's border communities.
- Integrate a plethora of missions, visions, performance measures, and functions.
- Improve service to border communities.

Phase one identified best practices for border coordination and challenges and opportunities for multi-jurisdiction collaboration. That phase finished December 2014. The phase one report recommended identifying opportunities for a coordination mechanism focused on institutional structure, implementation strategies, and a "road map" for proposals.

Phase two of the project has the following goals:

- Describe existing mobility conditions and challenges at each of California's border communities.
- Propose different alternatives for a coordination mechanism.
- Propose the required legal framework for a future coordination mechanism.
- Develop innovative planning, funding, financing, and project delivery strategies.
- Provide a five year work plan.

The estimated completion time for phase two is fall 2016. This particular project focuses on the U.S. side of the border. If successful, it could be expanded to consider improved coordination with Mexico.

San Diego – Tijuana Binational Model Roadmap: Phase 1, Land Inventory System

Sergio Pallares of Caltrans presented about a binational road map to model both sides of the border. This effort was one of the recommendations that emerged from the 2014 update to the regional border master plan. In 2014, the policy advisory committee approved 20 performance measures for the region. To gather data for these performance measures and model cross-border passenger vehicle travel behavior, the San Diego Association of Governments agreed to expand its activity-based model to include the northwest portion of Baja California. They will also expand their common land inventory system and do small area forecasting.

This project has two primary tasks:

- The data discovery task will involve the acquisition of publically available data and will result in a technical memorandum and data bank.

- The binational roadmap task will involve planning, building, and implementing a binational transportation and land use model. It will result in a bilingual and binational roadmap document with a budget.

2016 – 2018 JWC Work Plan Discussion

Sylvia Grijalva of FHWA facilitated a discussion about the 2016-2018 JWC Work Plan. The group discussed the elements of the plan, proposed modifications, and then agreed to accept the 2016-2018 Work Plan, as amended. See the appendix for a full version of the final plan.

During the discussion, all participants emphasized the importance of the regional border master planning process and the need to continue those processes. What makes the plans so important and powerful is that they reflect the agreements and priorities on both sides of the border. Some participants suggested that the master plans should be part of Federal strategic plans, whereas other participants expressed concern about language that would appear to obligate Federal governments to commit to the priorities in regional master plans. Participants also discussed the following challenges and priorities with respect to the regional border master plans:

- Funding updates to the plans is challenging, as the regional border master planning process does not have a dedicated funding source. A suggestion discussed is to make it an NADB-funded initiative.
- Objectivity and the data-driven nature of master plans are important to the processes.

It is important to be transparent with stakeholders about how the plans will be utilized to implement projects, particularly land ports of entry.

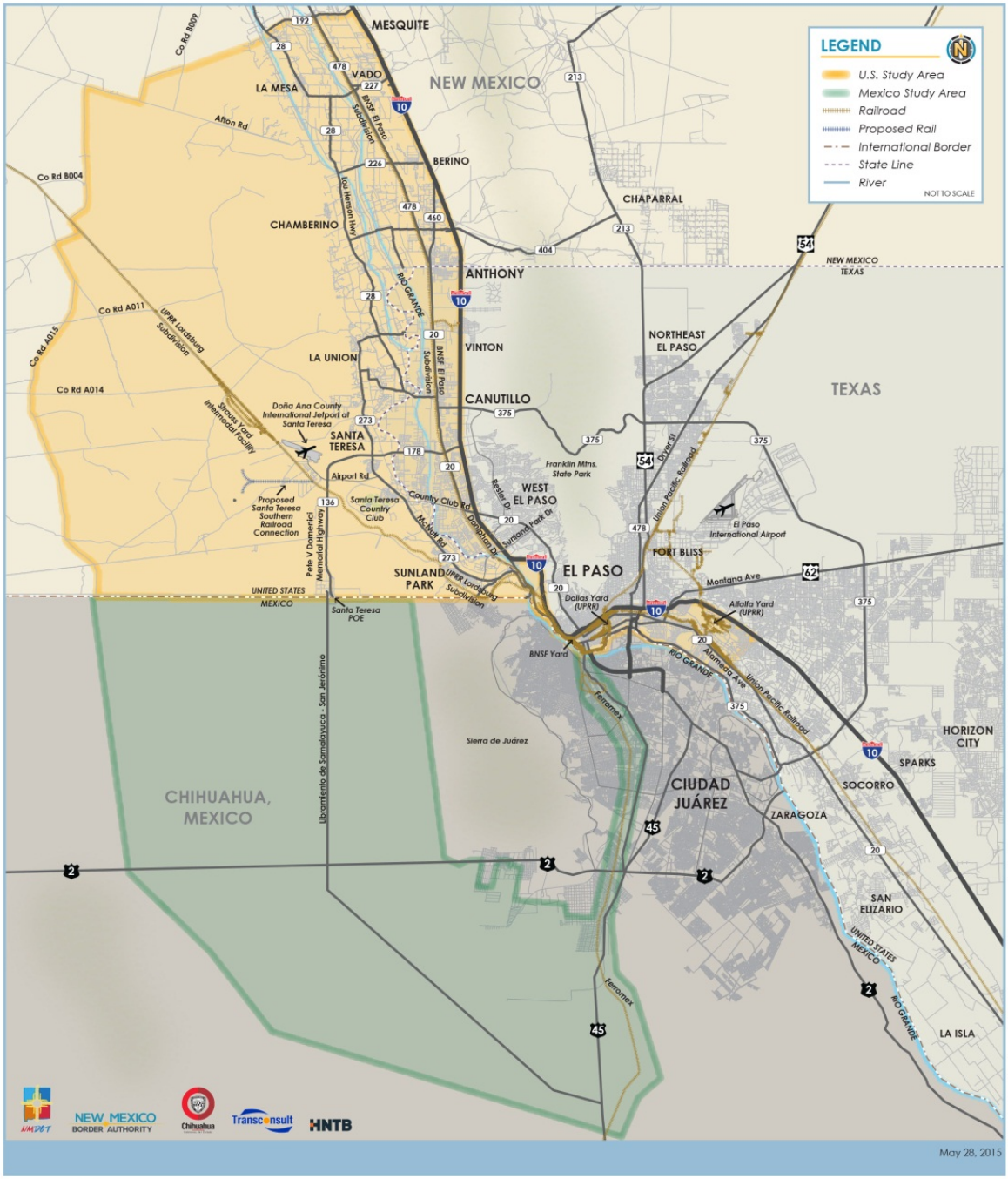
Second Day Greeting

Carlos S. Cascos, Secretary of State for Texas, greeted the participants at the start of the second day. He recently returned from a trip to Mexico where he participated in some very productive meetings to discuss, among other things, infrastructure needs on both sides of the border. As part of the trip, he met with President Peña Nieto. Secretary Cascos expressed admiration for the President's courageous and creative initiatives to improve border infrastructure. Secretary Cascos noted the need to approach infrastructure development holistically. For example, building a bridge is only meaningful if it is accompanied by key infrastructure that connects the bridge to important origins and destinations. Secretary Cascos concluded by recognizing the important role that Texas plays in border discussions, considering that the Texas – Mexico border comprises 65 percent of the total U.S. – Mexico border. With that in mind, he noted that his office and TxDOT are ready to help JWC's efforts, and he emphasized the importance of continued communication.

Santa Teresa, New Mexico/ San Jeronimo Proposed Rail Bypass

Bill Mattiace (New Mexico Border Authority), Eduardo Esperon Gonzales (Chihuahua Ministry of Communications and Public Works), Joshua Mieth (HNTB), and Jorge Luna (Transconsult) presented about the Santa Teresa International Rail Study. This feasibility study is investigating a proposed rail bypass and new port of entry in New Mexico. The new international rail line would bypass El Paso, Texas and Ciudad Juarez, Chihuahua and cross the border somewhere in the vicinity of Santa Teresa, New Mexico. Figure 13 shows the proposed study area for the project. This project would move the existing rail port of entry out of urbanized areas where there are more constraints and impacts on local communities.

The purpose of the proposed project is to develop a financially viable, safe, reliable, and environmentally sustainable freight rail corridor that stimulates economic development. Project needs include increased rail capacity, safety, and connectivity. The U.S. lead agency is the New Mexico Border Authority, and the Mexican lead agency is the State of Chihuahua. Both agencies are conducting feasibility studies, but they are doing so in a coordinated fashion. The agencies learned early on that all of the required public meetings need to include binational coordination and involve stakeholders on both sides of the border.



SANTA TERESA INTERNATIONAL RAIL STUDY

Proposed Study Area Map

Figure 13. Map of the proposed study area for the Santa Teresa International Rail Study
Source: Santa Teresa International Rail Study

Initially, the U.S. study considered eight alternatives, one of which was eliminated because it did not meet the project's purpose and need. Each of the seven remaining alternatives was evaluated on cost, safety, engineering feasibility, real estate feasibility, environmental and community concerns, public and agency input, and operations and mobility issues. Figure 14 shows the rating that each of the seven alternatives received in the U.S., as well as the rating that each received in Mexico with respect to the five criteria in the Mexican feasibility study. Three preliminary alternatives advanced to the next stage of the U.S. study for more detailed analysis. Figure 15 shows the three preferred alternatives: A, C, and a hybrid of A and C.

U.S. Evaluation of Alternatives

Initial Evaluation Criteria

	Preliminary Alternatives						
Criterion	**A**	**B**	**C**	**D**	**E**	**F**	**G**
Operations/Mobility							
Safety							
Environmental/Community							
Engineering Feasibility/Constructability							
ROW Feasibility/Property Ownership							
Cost							

Mexican Evaluation of Alternatives

Criterion	Alternative						
	A	B	C	D	E	F	G
Environmental impact							
Social impact							
Operation							
Engineering feasibility							
Safety							

* Comparison of alternatives: green = above average, yellow = average, orange = below average

Figure 14. Rating that each of eight alternatives received in the U.S. and Mexican feasibility studies
Source: Santa Teresa International Rail Study

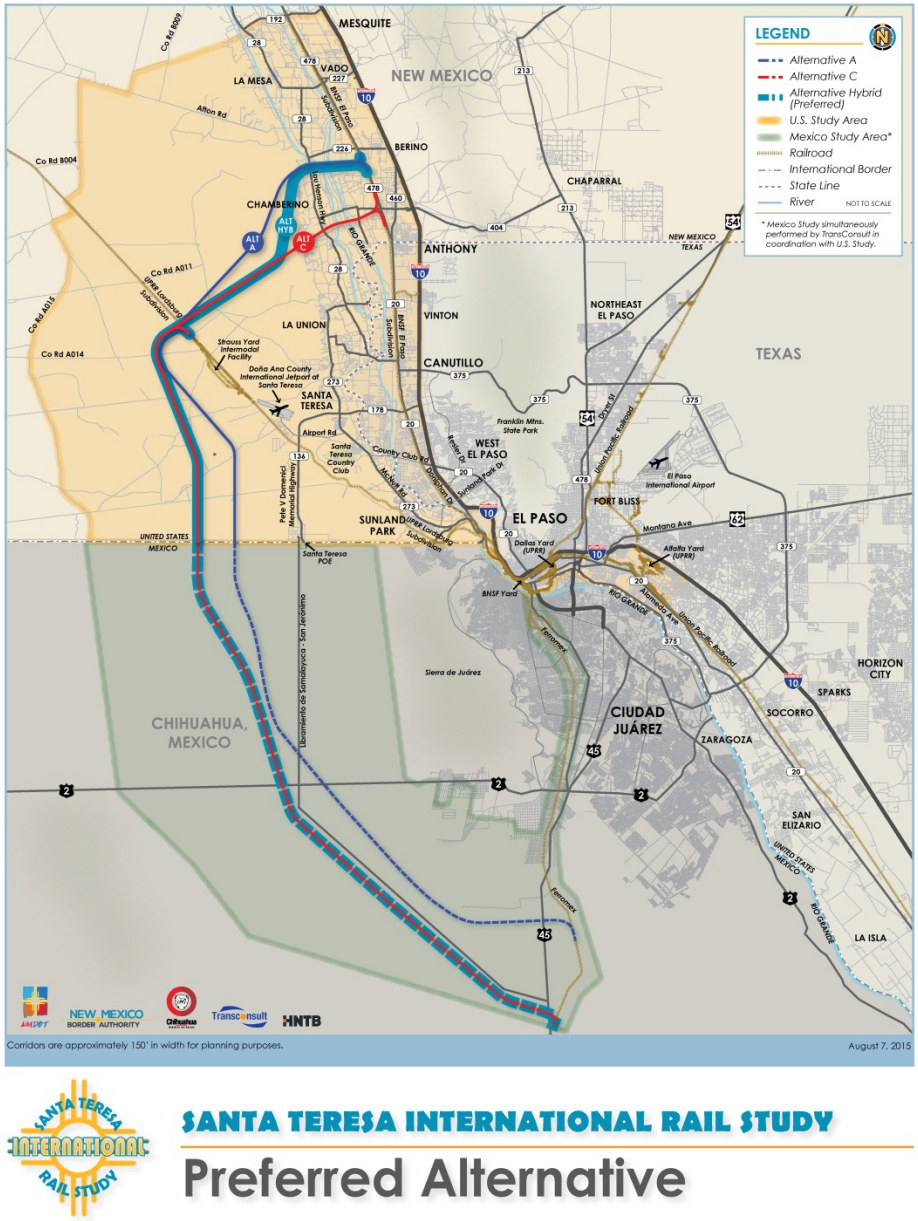


Figure 15. Three preferred alternatives in the U.S. feasibility study on the proposed Santa Teresa rail bypass
Source: Santa Teresa International Rail StudyAfter additional study, the project team recommended the hybrid of A and C as the U.S. preferred alternative, combined with alternative C in Mexico. This satisfies the evaluation criteria, and it minimizes the risk associated with potential future unplanned urbanization west of Ciudad Juarez.

On the U.S. side, the next step for the project is to complete the feasibility study report, which will include the recommendation of the preferred alternative and the identification of funding options. Subsequent phases of the project will include establishing agreements with railroads and other key partners; formalizing a presidential permit; obtaining funding; and completing NEPA review.

On the Mexican side, the next step is also to complete a feasibility study report. The Mexican feasibility study will include a recommendation of a preferred alternative, a cost-benefit analysis, assessment of technical and legal feasibility, and identification of possible funding sources. The project team will also register the project with the Investment Unit of the Secretariat of Finance and Public Credit and pursue a Memorandum of Understanding regarding the border crossing location. Subsequent phases of the project will include preparation of an environmental impact statement and acquisition of right-of-way.

Colombia Bridge Updates

Carlos Garza and Jorge Treviño of the Corporation for the Development of the Border Area of Nuevo León (CODEFRONT Nuevo León), presented about work related to the Laredo-Colombia Solidarity International Bridge, which connects Laredo, Texas to Colombia, Nuevo León. By the end of September 2015, CODEFRONT Nuevo León plans to inaugurate new facilities that will improve security at the bridge. In addition, CODEFRONT Nuevo León recently completed improvements to the corridor's freight infrastructure, including new refrigerated rooms at Colombia and agricultural and cattle inspection areas. Inspectors from the U.S. Food and Drug Administration work in those areas to examine products before they travel to the U.S. The agency has also worked with the Texas Transportation Institute to install readers for automated border wait time information systems, and implemented logistical planning to reduce wait times within Mexican customs. Francisco Alanís Gloria will be leading new projects, including work on truck stop proposals in order to provide first class services to cargo operators using the bridge.

Jorge Treviño discussed a proposed new project that would improve economic development on both sides of the border and potentially reduce border crossing wait times. The proposal is to build shared facilities that allow for more efficient freight transfers within the port. In particular, the initial focus would be on facilities to help protect perishable goods, thereby reducing economic losses due to damaged products, and consequently lowering the overall cost to import and export those products between the two countries. All U.S. and Mexican inspectors would work at those locations, achieving efficiencies through simultaneous inspections and shared facilities. This arrangement would also make the inspection process more transparent and reduce the risk of contraband.

As envisioned, the process would involve unloading each tractor trailer on one side of the border, and then the goods would traverse via a moving platform to the inspection facilities and the other side of the border for reloading onto either the same or a different tractor trailer. This arrangement helps to enlarge the pool of potential truck drivers, since even drivers that are only qualified to transport freight domestically would still be able to facilitate cross-border freight transfers. Also, this arrangement would facilitate efficient freight movement in compliance with different weight regulations on each side of the border. On the U.S. side, the weight limit is 20 tons, but when repacking the goods on the Mexican side of the border, the weight limit is 25 tons.

The project has support from a variety of Mexican agencies. In order to move forward, the project proponents are working on an agreement that would allow U.S. and Mexican inspectors to conduct their

work in the same shared location at the border, rather than 15 miles away from the border on each side. Project proponents estimate that this would reduce the overall processing time for goods from 3 days to 10 hours. After an initial pilot, the project could eventually be expanded beyond perishable goods to include other freight, and it could be replicated at other ports of entry.

Intersecretarial Planning Subcommittee on Bridges and Border Crossings

Mauricio Ibarra Ponce de León of SRE presented about the Intersecretarial Planning Subcommittee on Bridges and Border Crossings. This is the coordinating body of Mexican Federal agencies with responsibility for international border infrastructure and services. It coordinates the participation of Mexican government stakeholders in the U.S. – Mexico Binational Bridges and Border Crossings Group (BBBXG). The next regional BBBXG meeting will be in Baja California on October 27-28, 2015.

The core members of the subcommittee include SRE, SCT, Tax Administration Service (SAT), Department of the Interior National Institute of Migration (INM), National Service of Health, Safety, and Food Quality (SENASICA), and the Institute of Management and Valuation of National Assets (INDAABIN). A variety of other agencies also participate, including the Secretariat of the Economy (SE), the Secretariat of National Defense (SEDENA), and the governments of the States of Baja California, Sonora, Chihuahua, Coahuila, Nuevo León, and Tamaulipas.

Mauricio provided a brief update on infrastructure projects:

- **El Chaparral – San Ysidro Port of Entry.** This border crossing is the one of the busiest ports of entry on the border. The U.S. is starting to build a pedestrian bridge here, and Mexico is working on a second phase expansion. On August 19, 2015, Mexico opened a new pedestrian entrance, Puerta Este Mexico-San Ysidro.
- **Cross-Border Xpress.** A pedestrian overpass will connect San Diego to Tijuana's A.L. Rodríguez International Airport, which will help more than 2 million pedestrians access the airport from the U.S. On the Mexican side, most of the construction is already complete, and the hope is that the connection will be open by the end of 2015.
- **Nogales-Mariposa Port of Entry.** The Nogales – Mariposa port of entry is one of the primary ports for fresh produce entering the U.S. from Mexico. Improvements to the corridor have been completed, and a second phase is in progress. Construction of a pedestrian bridge is in progress, and a second pedestrian bridge may also be constructed.
- **Tornillo-Guadalupe Port of Entry**. The Tornillo-Guadalupe port of entry is a new border crossing scheduled to replace the Fabens port of entry. The new port of entry is expected to be complete and in service by the end of 2015. The U.S. and Mexico are coordinating to determine the date for the formal inauguration of the new port of entry. Additionally, there is a plan to construct a bypass leading to the bridge from the Mexican side. Construction of the bypass will likely start in early 2016.

- **West Rail Bypass International Bridge.** Mexican and U.S. dignitaries inaugurated the West Rail Bypass International Bridge in Brownsville, Texas on August 25, 2015. The bridge is the first new international rail crossing between the U.S. and Mexico in more than one hundred years.

U.S. Customs and Border Protection (CBP) Facilities Planning

Lisa Dye and Mikhail Pavlov of CBP presented on customs facilities planning. CBP conducted a Strategic Resource Assessment in 2009 to gather data on existing conditions and prioritize future investments. As part of its fiscal year 2015 goals, the agency revisited 37 of the sites identified in 2009 as those most in need of improvement, and will present a final prioritized list of improvements to the commissioner in October 2015. CBP will continue to collaborate with GSA and others to refine the list and develop the next annual update to the CBP five year plan, an internal document. This will also inform the U.S. President's proposed budget for fiscal year 2017. (Although the President's Budget for fiscal year 2016 included two border projects, it appears unlikely that GSA will receive any funding for infrastructure projects in fiscal year 2016.) Moving forward, CBP plans to continue revisiting the Strategic Resource Assessment findings across the entire portfolio.

CBP participates on the 21st Century Border Bilateral Executive Steering Committee. The Secure Flows Subcommittee decided to establish a U.S. Border Infrastructure Prioritization Council and a national prioritized list of projects. On an annual basis, each of the 10 Federal agencies that participate in the U.S. Border Prioritization Council will provide data to inform the prioritization of projects. The regional Border Master Plans and State information will also influence the prioritization. The council will then group the projects and develop a final prioritized list for consideration as part of the U.S. President's annual budget proposal.

Some confusion was expressed about how the prioritized lists prepared in the regional BMPs and the Federal agencies (Prioritization Council) relate to one another. CBP will prepare a description of how those lists and groups fit together.

CBP will also develop a one page document to help external organizations understand how to work with CBP. It will identify the relevant branches and individuals to contact for various inquiries. CBP will share this at the next JWC meeting in April 2016.

One participant asked about progress at the proposed Otay Mesa East port of entry. CBP and SAT are finalizing a Memorandum of Understanding; once that is signed, CBP and SAT will meet to develop process maps of how traffic will flow on both sides of the border at the proposed Otay Mesa East port of entry.

Mexican Customs Infrastructure Planning

Eduardo Valdez of SAT presented updates on Mexican customs infrastructure projects. There are six projects currently under construction, with a combined investment totaling 1,967 million pesos.

- **Zaragoza**. A 348 million peso project to reconfigure Zaragoza customs will be complete November 2015.
- **Tornillo-Guadalupe.** The new Tornillo–Guadalupe border crossing will be completed inNovember 2015.
- **Otay Bridge Modernization.** Modernization of the Otay Mesa Bridge crossing for commercial and private vehicles is scheduled for completion in December 2016.
- **Ojinaga**. Modernization of the customs station at the Ojinaga port of entry will be completed in September 2016.
- **Mexicali II**. Modernization of the Mexicali II border crossing for exports will be completed in July 2016.
- **New Customs Stations**. Construction of twelve new customs stations at six ports of entry will be completed in September 2016.

In addition, SAT has a number of planned projects that are not yet under construction. These include projects at Puerto Palomas, Tecate, Ciudad Acuna, Mexicali II (import), Nogales (export), and Reynosa (Pharr).

GSA Port of Entry Projects Impacting Transportation

Cecil Scroggins and Ramon Riesgo from GSA presented updates on four GSA capital projects in Texas, New Mexico, Arizona, and California.

Columbus Port of Entry

The new design for the Columbus port of entry will be complete in May 2016. Land acquisition is almost complete. If GSA is unable to obtain funding for construction in fiscal year 2016, the agency will pursue funding for 2017. In the meantime, a temporary road is under construction to alleviate commercial congestion and improve safety for school children. It should be complete November 2015. GSA submitted a diplomatic notification of proposed changes to Mexico, and SAT concurred.

Tornillo Port of Entry

Phase two construction is in progress at the Tornillo–Guadalupe port of entry. This involves the construction of an inbound commercial roadway located within the perimeter of the demolished Fabens port of entry. This coincides with Mexico's schedule. Eventually the new facility will include inbound and outbound Inspection lanes, 4 private vehicle lanes, 2 commercial lanes, and 10 commercial docks.

Laredo 1 & 2 Ports of Entry

Projects at the Laredo 1 (Convent Avenue) and Laredo 2 (Juárez- Lincoln) ports of entry will begin soon. This will include the modernization of both ports and the reconfiguration of traffic lanes. GSA awarded the construction contract for Laredo 2 in June 2015, and construction will commence in September

2015. GSA expects to award the construction contract for Laredo 1 in December 2015. GSA is working to coordinate with Mexican and U.S. State agencies and will develop communication plans to convey important changes to local communities on both sides of the border.

San Ysidro Port of Entry
The expansion and reconfiguration of the San Ysidro land port of entry is three years into construction. In total, the three phase project will cost $710 million dollars. The project has a number of components and is operating under an aggressive schedule.

- The western pedestrian facility will be a pedestrian-only facility with 10 booths, which will complement the larger facility on the eastern side. In order to begin phase two of the project, this pedestrian facility will need to be operational. GSA is using a design-build contract in order to complete the facility more quickly. GSA is continuing discussions with Mexico on the importance of opening it in April 2016.
- Phase 2 of the project will create a multimodal transit center and pedestrian facility at Virginia Avenue. This will likely start in summer 2016, a few months after the western pedestrian facility opens. Phase two must be complete before phase three can begin.
- Phase 3 will create a roadway connection to El Chaparral. It will add northbound and southbound lanes, inspection booths, and an employee parking structure.

Calexico Port of Entry
The expansion and renovation of the Calexico land port of entry is entering its first phase. Construction will begin in September 2015. Phase 1 will include the construction of a new southbound entry into Mexico's sister facility. Phase 2 is not yet funded, but it will likely begin within the next two years. Phase 2 will add additional northbound lanes, a new pedestrian facility, and a parking area for employees.

San Luis I Port of Entry
The pedestrian realignment project at the San Luis I land port of entry will double the size of the existing pedestrian facility. GSA plans to award the construction contract by February 2016.

Military Inspections of Cargo in Mexico

Felipe Garcia of the Tucson-Mexico Trade Coalition discussed a proposed pre-inspection pilot program to address military inspections of cargo in Mexico. Mexico's SEDENA operates approximately 30 military inspection locations across the country.

The Querobabi checkpoint is located on a high priority corridor in Sonora, approximately 150 kilometers south of the border crossing at Nogales. In 2008, the Querobabi checkpoint relocated from a temporary location. The relocation was expected to solve problems related to long lines. However, there are still long lines and wait times. On average 2,000 trucks pass through the checkpoint every day for inspection. Lines can exceed eight kilometers, and wait times can exceed seven hours at certain times of the year. The long wait times create negative economic, environmental, labor, agricultural, and international impacts. For example, the unpredictable delays render just-in-time delivery unfeasible.

The proposed pre-inspection program will involve an agreement between SEDENA and a group of grape producers in Mexico. SEDENA will conduct pre-inspections at the grape packaging facility. SEDENA will then add tamper-evident certified seals to the cargo, scan the seal information, and add a flag to the truck. When the flagged truck arrives at Querobabi, SEDENA will allow it to proceed to the front of the line and then scan the seal again. If anything appears suspect or too much time has passed since the first inspection, SEDENA will break the seal and re-inspect before adding a new seal. Just prior to arriving at the Mariposa port of entry, officers will scan the seal once more. Each time SEDENA scans a seal, the information will upload to a secure cloud-based storage portal.

Felipe, on behalf of the Tucson-Mexico Trade Coalition, requests that the JWC include this pre-inspection proposal on the agenda for future meetings. He also invited agencies that would like to participate and access data from the program to contact him at fgarcia@visitTucson.org.

Texas Freight Plan and Chief Findings/Recommendations Related to the Border

Caroline Mays of TxDOT reported on the Texas Freight Mobility Plan and recommendations related to the border. The objectives of the Texas Freight Mobility Plan are to:

- Develop the first comprehensive and multimodal statewide freight mobility plan.
- Outline the State's short and long-term plan for freight investments and planning activities.
- Identify freight transportation facilities critical to the State's economic growth.
- Enhance economic growth and economic competitiveness of the State and the U.S.
- Guide investments and policies.

The plan builds on existing plans and efforts, including the Regional Border Master Plans. The development of the freight plan has included an extensive stakeholder outreach process, which is nearly complete. The plan will likely be final by the end of 2015.

The Texas Freight Mobility Plan identified some trends and emerging issues impacting freight movement, including population growth, energy sector growth, and trade with Mexico and Canada. Stakeholders identified some Texas – Mexico border challenges, including:

- Growing trade volumes between the U.S. and Mexico through Texas
- Congestion at the border, reducing the efficiency of freight movement
- Border crossing staffing issues, impacting customs processing and wait times
- Limited hours of operation at ports of entry (collaboration with industry could encourage off-peak travel)
- Need to use technology to improve mobility at crossings and to modernize cargo inspections

Since 2000, there has been a 22 percent increase in truck flows between Mexico and Texas. Figure 16 shows that the majority of freight movement between Mexico and Texas is via truck.

Figure 17 shows the truck traffic from Mexico to Texas in relation to that from Mexico to other U.S. States.

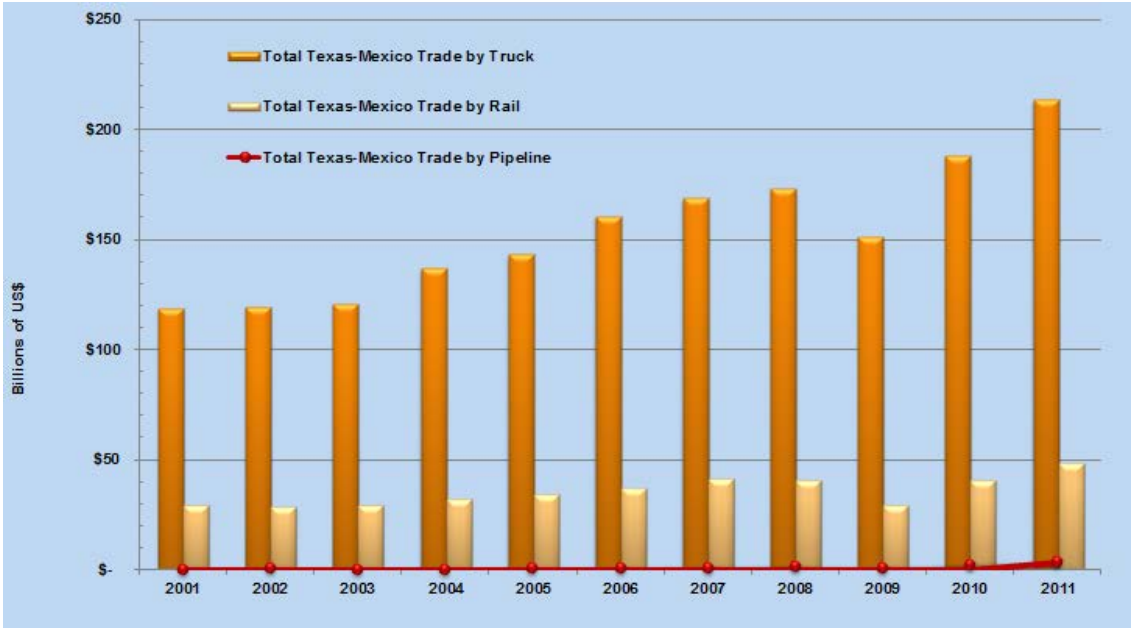


Figure 16. Value of Texas – Mexico trade by Mode
Source: TxDOT

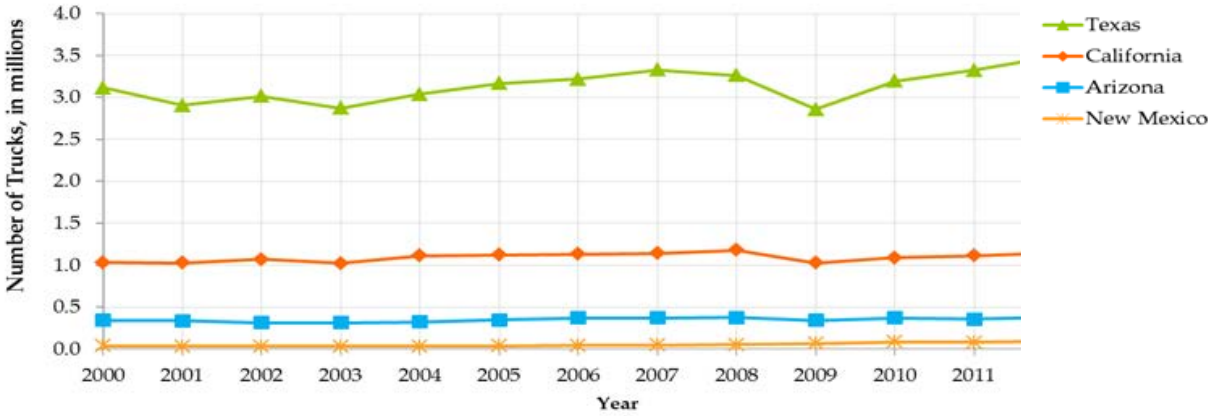


Figure 17. Annual number of northbound trucks crossing U.S. – Mexico border ports of entry, by U.S. State
Source: TxDOT

Nearly 58 million tons of freight crossed the Texas – Mexico border in 2010, and it is estimated that more than 204.2 million tons will cross the border in 2040. In 2040 the highest freight volumes will likely be at the Laredo World Trade Bridge and the Pharr-Reynosa International Bridge. For each port of entry on the Mexico – Texas border, Figure 18 shows the average annual daily traffic (AADT) for trucks in 2010 as well as the 2040 projection.

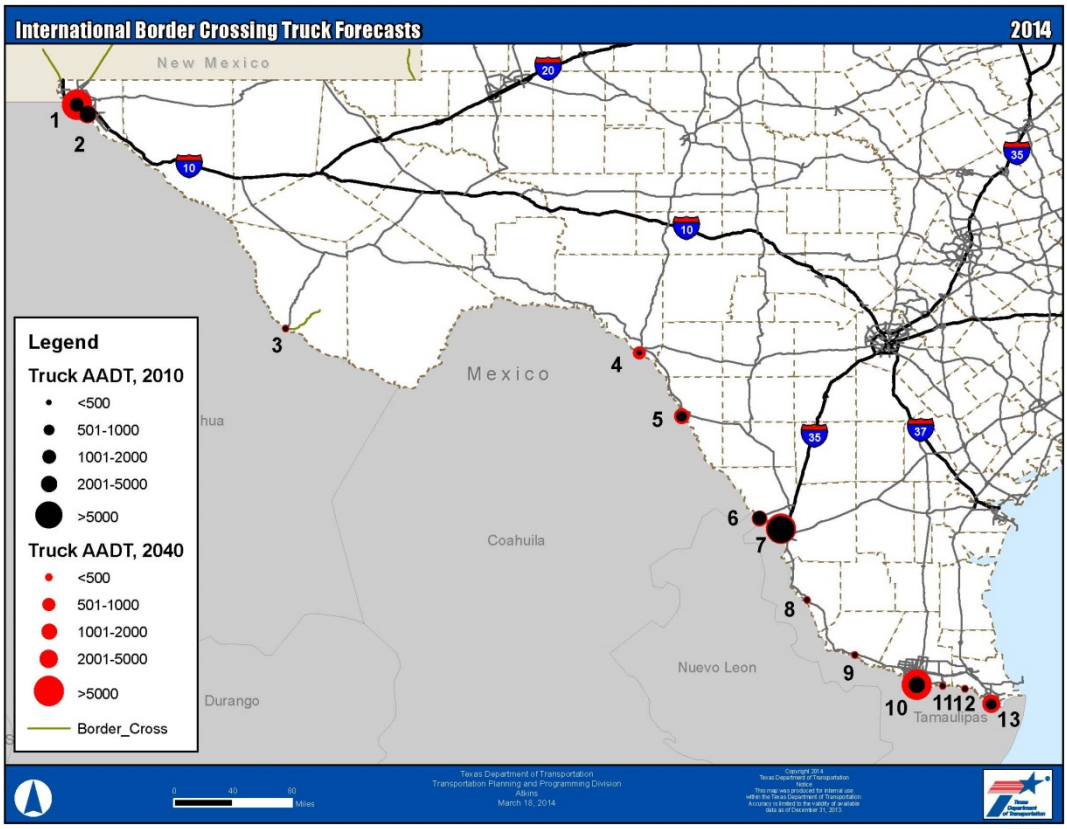


Figure 18. Mexico – Texas border crossing truck forecasts, in terms of average annual daily traffic (AADT)
Source: TxDOT

The draft Texas Freight Mobility Plan recommendations related to the border include the following:

- Invest in and facilitate international border coordination strategies to improve freight mobility and efficiency.
- Invest in a comprehensive integration of security and cross-border efficiency to improve cross-border trade and the movement of people and goods in order to facilitate Texas' economic competitiveness.
- Work with the Federal, State, local, and private sectors to develop a dedicated International Border Freight Movement Coordination Program.

Caroline noted that the Regional Border Master Plans were key sources of information for the Freight Mobility Plan. TxDOT considers the Border Master Plans to be a critical component of the State's planning process and will pursue updates of each plan.

More information about the Texas Freight Mobility Plan is available at www.MoveTexasFreight.com.

Summary of Commitments and Agreements

Sylvia Grijalva of FHWA and Marco Frías of SCT summarized the commitments and agreements. All of the commitments and agreements from the previous JWC meeting are complete, with the exception of one origin-destination study that Caltrans is conducting. The commitments and agreements for this meeting are as follows.

Commission on Environmental Cooperation study

Commitment: Sylvia will circulate the link to the Greening Transportation at North American Land Port of Entries Study (see related presentation on page 3). The link is http://www3.cec.org/islandora/en/item/11656-reducing-air-pollution-land-ports-entry-recommendations-canada-mexico-and-united

NADB study

Commitment: Sylvia will circulate Alex Hinojosa's email address and NADB study website so that members may request a copy of the draft study. Alex Hinojosa's email address is ahinojosa@nadb.org. The website is www.nadb.org/pdfs/publications/NADBANK%20POE%20English%20091015.pdf.

Border wait times

Commitment: Within one month, a conference call will occur to discuss a border wait time study for the Santa Teresa / Geronimo port of entry with NMDOT, New Mexico Border Authority, the Chihuahua Ministry of Communications and Public Works, SCT, FHWA, SRE, and DOS.

Scenario planning

Commitment: Tricia Harr will discuss with Patricia Cravioto Galinda at SCT the possibility of inviting State and local representatives with knowledge on modeling to participate in upcoming webinars to gather feedback on the draft modeling framework.

Commitment: JWC will add the study entitled Scenario Planning of Future Freight and Passenger Traffic across the U.S. – Mexico and U.S. – Canada Borders to the JWC work plan.

Commitment: Sylvia will research how other entities determine latent demand and share findings with JWC at a future meeting**.**

Border Finance Workshop

Commitment: The coordinating committee will circulate a hold-the-date flyer to JWC members. JWC members will be asked to forward it to their border stakeholders in their respective States. Accompanying the flyer will be a question to potential participants requesting them to submit topics they would like discussed and/or questions they would like addressed. These topics should fit within the principal themes stated in the flyer.

Economic Impacts

Commitment: Sylvia will circulate the link to the map of trade between cities in North America developed by the Brookings Institute. The link is www.brookings.edu/research/interactives/2013/metro-north-america

Commitment: JWC will research and discuss the possibility of using non-proprietary models to determine economic impacts of border wait times (such as the model developed for TxDOT by Cambridge Systematics).

Border Infrastructure Priority Council

Commitment: CBP will provide an update on the Border Infrastructure Priority Council at the next JWC meeting.

2016-2018 JWC Work Plan

Commitment and Agreement: JWC approved the proposed work plan with adjustments as discussed at the meeting. The work plan will be circulated after the adjustments are made.

General

Commitment: The next JWC meeting will be in Monterrey, Nuevo León, Mexico on April 6 and 7, 2016, with Tuesday, April 5 as the travel day.

Date and Location of Next Meeting

Marco Frías of SCT announced that the next JWC meeting will be held on April 6-7 in Monterrey, Nuevo León.

Concluding Remarks

David Kim of FHWA expressed his thanks to everyone for a successful meeting. He noted the strength of relationships among JWC members and congratulated the group on its collective ability to accomplish a great deal. He thanked everyone for participating so actively.

Appendix A: Agenda

US-Mexico Joint Working Committee
Meeting Agenda
Austin, Texas
September 9 & 10, 2015

Sept 9

8:30 am — Welcoming Remarks
Al Alonzi, FHWA Texas Division Administrator

8:50 am — Meeting Purpose & Introductions
David Kim, FHWA & Carlos Bussey Sarmiento, SCT

9:00 am — XXI Century Border Executive Steering Committee Infrastructure Sub-Committee & HLED
Cameron McGlothlin, DOS; Mauricio Ibarra Ponce de León, SRE; Marco Frías, SCT; & Tricia Harr, FHWA

9:20 am — Commission on Environmental Cooperation (CEC) Greening Transportation at the Border
Juan Villa, TTI

9:40 am — Transportation Infrastructure Finance and Innovation Act (TIFIA)
Cheryl Jones, FHWA

10:00 am — CBP Alternative Funding Programs: Reimbursable Services and Donations Acceptance.
Garrett Wright, CBP

10:25 am — Transportation and Pedestrian Projects along the Border in Arizona
Rudy Perez, AZ DOT

10:35 am — Break

10:50 am — Infrastructure Financing study by NADBank
Alex Hinojosa NADBank

2013-2015 Work Plan

11:20 am — Regional Border Master Plans
New Mexico /Chihuahua,
Randall Soderquist, NM DOT & Sergio Jurado, Chihuahua

11:35 am — ITS Activities

- Re-cap of ITS Capacity Building and other Coordination Efforts with USDOT
  Marco Frías, SCT
- Status of Traffic Management Center and ITS Activities in Tijuana Region and other Border Regions
  Marco Frías, SCT
- ITS Concept of Operation for Otay Mesa East-Otay II
  Mario Orso, Caltrans

US-Mexico Joint Working Committee
Meeting Agenda
Austin, Texas
September 9 & 10, 2015

12:15 pm Freight

- Scenario Planning of Future Freight & Passenger Traffic Across the US-Mexico and US-Canada Borders
  Travis Black, FHWA
- US - Canada Freight Planning Peer Exchange Re-cap / North American Transportation Statistics (NATS) update
  Tiffany Julien, FHWA
- The Southern Arizona to Central Mexico Freight Corridor Study and Needs Analysis
  Gail Lewis, AZ DOT & Marco Frías, SCT
- US - Mexico Freight Workshop Action Plan Status / Work Groups – Cross-Border Data Sharing & Freight Data Catalog
  Sylvia Grijalva, FHWA

1:15 pm Lunch (provided)
Luncheon Presentation - Border Fluidity Index
Eduardo Hagart, TX DOT & Juan Villa, TTI

2:20 pm Wait Time Studies along the Border & Updates

- Status of all projects in Texas including Data Dissemination & Blue Tooth Penetration Tests
  Eduardo Hagert, TX DOT
- Arizona Analysis of Bluetooth and Wi-Fi Technology to Measure Wait Times of Personal Vehicles & Border Waits Analysis at the Nogales-Mariposa POE
  Rudy Pérez AZ DOT
- California/Baja California South Bound Cross-Border Wait Time Project
  Mario Orso, Caltrans

3:30 pm Other JWC Activities or Studies

- Proposed Border Finance Work Shop
  Sylvia Grijalva, FHWA & Marco Frías, SCT
- California Integrated Border Approach Study
  Sergio Pallares, Caltrans
- San Diego-Tijuana Binational Model Roadmap: phase 1, Land Inventory System
  Sergio Pallares

4:30 pm 2016-2018 Work Plan Discussion (Approval / Disapproval) All

5:00 pm Adjourn for the day

US-Mexico Joint Working Committee
Meeting Agenda
Austin, Texas
September 9 & 10, 2015

Sept 10

9:00 am	Greeting - Carlos H. Cascos, Secretary of State for Texas
9:15am	Santa Teresa, NM/ San Jeronimo Proposed Rail By Pass Bill Mattiace, NM BA & Eduardo Esperon Gonzales, SCOP Chihuahua
9:35 am	Colombia Bridge Francisco Alanís Gloria, CODEFRONT Nuevo León
9:45 am	Inter-secretarial Planning Subcommittee on Bridges and Border Crossings Mauricio Ibarra Ponce de León, SRE
10:05 am	CBP Facilities Planning & Aduana Update Lisa Dye, CBP; Mikhail Pavlov, CBP; & Alberto Morales, SAT
10:25 am	POE Projects Impacting Transportation Charlie Hart, GSA, Ramon Riesgo, GSA, & Carlos de la Fuente, INDAABIN
11:00 am	Military Inspections of Cargo in Mexico Felipe Garcia, Tucson – Mexico Trade Coalition
11:20 am	Texas' Freight Plan and Chief Findings/Recommendations Related to the Border Caroline Mays, TX DOT
11:40 am	Summary of Commitments and Agreements Sylvia Grijalva, FHWA & Marco Frías, SCT
11:55 am	Location and Date of Next Meeting David Kim, FHWA & Marco Frías, SCT
12:00 pm	Concluding Remarks David Kim, FHWA & Marco Frías, SCT
12:15 pm	Adjourn the Meeting

Appendix B: 2016 – 2018 JWC Work Plan

1) Border Wait Times Studies

Commercial vehicles are often delayed at border crossings. Trip delays increase transportation costs, and impact national security and the environment. There are efforts underway by several agencies to improve processes (inspection, queuing, just-in-time delivery) as well as programs to fund and improve infrastructure at ports of entry (POEs) to reduce delays and increase security. The objective of these studies is to provide a baseline of border crossing delay by measuring border crossing times for commercial trucks at each of the border crossings. These baseline data will then be used to help measure the success of improvement projects and strategies. **The goal is to have 95% of commercial truck traffic included in the monitoring and near real-time dissemination of border wait times and cross-border wait times along entire U.S.-Mexico border**. Ongoing sites include: Mariposa (Nogales, AZ / Nogales, Sonora); BOTA (El Paso, TX / Juárez, Chihuahua); Ysleta / Zaragoza (El Paso, TX / Juárez, Chihuahua); Pharr (Pharr, TX / Reynosa, Tamaulipas); World Trade Bridge (Laredo, TX / Nuevo Laredo, Tamaulipas); Laredo Colombia Solidarity Bridge (Laredo, TX / Colombia, Nuevo León); Veterans Memorial Bridge (Brownsville, TX / Matamoros, Tamaulipas); Camino Real International Bridge (Eagle Pass, TX / Piedras Negras, Coahuila). Please see website http://bcis.tamu.edu/.

A privately owned vehicle (POV) traffic border wait times system has been implemented at Ysleta/Zaragoza in both directions (southbound and northbound). (Please see website http://bcis.tamu.edu/).

Penetration rates of Bluetooth-enabled devices are being conducted for both southbound and northbound POV traffic in order to determine if a Bluetooth border wait time system is viable. Bluetooth penetration tests have been concluded statistically verified to be eligible for implementation at seven locations: Juárez-Lincoln Bridge (Laredo, TX/Nuevo Laredo, TX); McAllen-Hidalgo-Reynosa Bridge (McAllen, TX/Reynosa, TX); Paso del Norte Bridge (El Paso, TX / Ciudad Juárez, Chihuahua); Pharr-Reynosa International Bridge on the Rise (Pharr, TX / Reynosa, Tamaulipas); Brownsville & Matamoros International Bridge (Brownsville, TX / Matamoros, Tamaulipas); Del Rio-Ciudad Acuña International Bridge (Del Rio, TX / Acuña, Coahuila); and Gateway International Bridge (Brownsville, TX / Matamoros, Tamaulipas). The Paso del Norte Bridge and Stanton Bridge POEs (El Paso, Texas / Ciudad Juárez) will be implemented with Bluetooth technology in both directions.

Bluetooth penetrations tests are being conducted five locations for POV traffic: Bridge of the Americas-Córdova (El Paso, TX / Ciudad Juárez, Chihuahua); Veterans International Bridge (Brownsville, TX / Matamoros, Tamaulipas); Gateway to the Americas (Laredo, TX / Nuevo Laredo, Tamaulipas); Eagle Pass Bridge 1 (Eagle Pass, TX / Piedras Negras, Coahuila); and Camino Real International Bridge (Eagle Pass, TX/Piedras Negras, Coahuila).

Bluetooth and/or Wi-Fi penetration tests are to be conducted at six POE locations along the AZ-Sonora border: Naco (Naco, AZ / Naco, Sonora); San Luis I (San Luis, AZ / San Luis Colorado, Sonora); Mariposa (Nogales, AZ / Nogales, Sonora); Deconcini (Nogales, AZ / Nogales, Sonora); Lukeville-Sonoyta (Lukeville, AZ / Sonoyta, Sonora); and Douglas-Agua Prieta (Douglas, AZ / Agua Prieta, Sonora). Implementation of technology in both directions will follow at all locations that meet statistical penetration standards. At San Luis I in AZ, pedestrian and bicycle border wait times will also be documented

California and Baja California are taking a regional system-wide approach from the San Ysidro POE to the Tecate POE in determining border wait times. They have begun work on implementing a Bluetooth and/or Wi-Fi monitoring system.

The Santa Teresa-San Geronimo POE (Santa Teresa, NM / San Geronimo, Chihuahua) will be implemented with a commercial vehicle border wait time system.

2) Wait Time Data Integration

JWC will work toward data integration of the border wait time information with CBP for U.S. bound traffic. JWC will verify that the quality of the data is acceptable to be used by CBP on their website. (JWC's goal is to work toward using one data set where applicable).

3) Analysis of How to Use and Disseminate Wait Time Data

JWC will analyze various ways that border wait time data can be used for planning, operations, traffic information, and design, and what methods format are needed for dissemination of the information. Most of the information is now being collected through the Border Crossing Information System (BCIS) and being disseminated at the following website: http://bcis.tamu.edu/. This system includes near real-time and archived data for commercial and POV traffic.

4) Regional Border Master Plans

JWC has created a compendium of border-wide regional master plans with a comprehensive and prioritized assessment of transportation needs along the border, including at the POEs. The Regional Border Master Plan (BMP) provides the next logical step in a comprehensive, binational transportation planning process. The BMP includes land use, environment, population, and socio-economic data. This data is used to adequately evaluate growth and future capacity needs at the border and to more realistically forecast future conditions in the border region. Additionally, this data can be utilized to evaluate the existing binational transportation and POE system, its current and future demand, and the infrastructure necessary to handle the expected growth. The BMP fosters consistency amongst the individual agency planning processes, which creates a documentation that feeds back into the periodic updates of plan. The BMP considers short-term, mid-term, and long-term needs. The comprehensive list and prioritized assessment of the transportation and POE needs support international trade as well as improve cross-border travel and the quality of life for the residents of and visitors to each region. Therefore, BMPs can be incorporated as a component of Federal, State, and local strategic plans. Additionally, the outcome of the BMP process should be accepted and embraced by stakeholders throughout the border region. Stakeholders should make the BMP part of their overall planning and forecasting process. BMPs should be regularly updated (every 3-5 years) with new data, policy issues, and economic and infrastructure changes as planned by the stakeholders. As of October 2015, BMPs have been completed for 5 regions: California-Baja California (2008 and 2014 update); Arizona-Sonora (2013); West Texas-New Mexico/Chihuahua (2013), Lower Rio Grande Valley-Tamaulipas (2013); Laredo District in Texas-Tamaulipas/Nuevo León/Coahuila (2012). The BMP for New Mexico-Chihuahua is in progress.

5) **Transportation Modeling**

In an effort to provide accurate short-, medium-, and long-term traffic projections for cross-border travel, cross-border and POE travel demand forecast modeling are desired, including information to populate travel demand models. Current examples of this include the AZ-Sonora Binational Travel Demand Model Phase I and a project in California-Baja California. JWC will support the completion of the Scenario Planning of Future Freight and Passenger Traffic Flows across the U.S./Mexico and U.S./Canada Borders project. This project will model traffic and produce projections through the year 2045. JWC support will help guide the modeling effort and the project's success. These projections will provide additional tools for future Border Master Plan updates.

6) **ITS Capacity Building**

JWC will explore the possibility of capacity building for the Mexican States. IMT SCT will be the lead, working with the CETRATETS (at certain border state universities). U.S. DOT provided an ITS course to Mexicans participants the week of June 29th, 2015 in which IMT SCT participated.

7) **Border ITS Standards Coordination**

There are a multitude of agencies from numerous jurisdictions (Federal, State, and local) that operate at or approaching the U.S. / Mexican land POEs. Many of these agencies are currently planning or implementing technology and information systems to help them accomplish their work. Standards coordination will help guide a deliberate effort to ensure the systems deployed at the border are able to interact with each other, beginning with the San Diego/Tijuana area.

8) **Border Finance Workshop (Peer Exchange)**

JWC proposes a border finance workshop for January 20-21, 2016 in San Diego, California. The purpose of the workshop is to build on the May 2013 Innovative Finance workshop and inform stakeholders of potential funding sources (such as TIFIA, Banobras, NADB, FONADIN, Section 559, TIGER) for border infrastructure projects and how to apply for them. The target audience will be: government agencies with interests in building and managing border projects; private sector firms and advocacy groups willing to assist the government agencies; and parties interested in gaining a better understanding of approaches to border infrastructure funding along the U.S.-Mexico border.

9) **Binational Corridor and Multimodal Freight Management Strategies**

A subcommittee will be formed to develop strategies to improve binational corridor management, including economic development. This will include strategies to improve coordination between the four U.S. border States with primary responsibilities for freight planning in the U.S.; SCT with primary responsibilities in Mexico; U.S. DOT; and the six Mexican border States on this topic.

10) **Economic Impacts of Border Trade on Border Regions and Other Parts of North America**

JWC seeks to better understand the economic significance of border trade and impacts at the border regions, including documentation of economic impacts of cross-border trade, wait times, growth, and land use at the border region. A subcommittee will be formed to work on strategies to best achieve the stated goal. The first deliverable will be to develop an interactive trade value map for North America. JWC will also study non-proprietary models to determine economic impacts of border trade and/or border wait times.

11) California Integrated Border Approach Study

The California Integrated Border Approach Study (CA-IBAS) is an estimated 2-plus year study aimed at exploring an innovative multi-agency integrated border systems-based approach to project delivery strategies at the California-Mexico border. This research effort aims to provide advice to address solutions related to multi-agency planning and innovative project delivery to overcome funding shortages and individual agency limitations to improve multimodal regional mobility at communities abutting the State's international border with Mexico. While there are a number of Federal, State, and local agencies that work in border communities, there are no formalized, collaborative strategies to implement projects that go "beyond the mandate" of individual agencies. The California border region needs a multi-institutional border mechanism capable to serve as the lead coordinating entity for strategic planning, project delivery, and funding partnerships to address regional mobility needs at California's border communities. CA-IBAS seeks to propose this mechanism. The CA-IBAS has been divided in two phases. Phase 1 documented the state of the practice for improving mobility and the traveler experience in California communities adjacent to California/Mexico land POEs. It provided an overview of agencies involved in mobility and security issues surrounding California's border communities, and of institutional structures that might be used to improve service delivery and funding, as well as financing options to support those institutional structures and multi-agency projects. It also summarized case studies of selected best practices from other border regions. Phase 2 of this Study builds upon the outcomes and findings from Phase 1.

CA-IBAS Study will:

- Describe the existing mobility conditions and challenges at each of California's border communities abutting international land POEs.
- Propose to the State of California different alternatives of intra-agency collaboration to serve California's international border with Mexico.
- Propose the required legal operating frameworks for a future intra-agency structure.
- Develop innovative joint mechanisms for planning, funding, financing, and project delivery at California's border communities.
- Provide a 5-year concept of operations for a new intra-agency border collaboration mechanism.

12) Southern Arizona to Central Mexico Freight Corridor Study and Needs Analysis

This study will focus upon Interstate 19 from Tucson to Nogales, Arizona and Carretera Federal 15 from Nogales, Sonora to central Mexico. The goal of the analysis is to identify ways by which Arizona's transportation entities (State DOT, county DOTs, and regional planning agencies) may leverage performance improvements or the creation of new freight movement capacity within the State's transportation network to garner economic development benefits. Modes analyzed will include both commercial motor carrier and freight rail. The corridor of interest spans from Tucson, Arizona, along Interstate 19 to Nogales, Arizona and Nogales, Sonora, before extending southward along Carretera Federal 15 to Guaymas, Mazatlán, Guadalajara, and eventually Mexico City. The primary aim of the study is to determine the deficiencies of the transportation network on Carretera Federal 15 and Interstate 19 from Central Mexico to Tucson, Arizona.

13) Border Fluidity Index

The goal of the Border Fluidity Index (BFI) is to develop and implement a system to measure truck travel times at land POEs in a consistent and systematic way. The border crossing information system (BCIS) provides real-time and historical information of wait and crossing times at all major POEs at the Texas-Mexico border. Understanding freight movement with an eye toward performance management requires multimodal data and supply chain information for informed decisionmaking on the freight network. Information from the BCIS needs to be complemented with additional data to provide decisionmakers with freight fluidity information. In order to take advantage of the investment that has been made in the development and implementation of the BCIS and further examine truck wait and crossing times, this effort will perform trend and congestion analyses, develop performance measures, complement the border performance indicators with additional data to develop a supply chain-based BFI. The BFI will develop a tool for shippers and carriers to analyze alternative POEs for crossing based on travel and crossing times. These items will result in the first comprehensive border-specific freight performance measurement system. The set of border performance indicators could be incorporated into the overall freight transportation planning efforts.

14) Cross-Border Data Sharing

The goal of this task is to:

- Evaluate existing cross-border data and determine:
    - What data is being exchanged, and what data is not being exchanged
    - For the data that exists but not being exchanged, how to create a mechanism to exchange that data
    - For the data that exists, what are the terms, definitions, and collection methodology (for an apples-to-apples comparison), and if data is the same on both sides of the border.
    - What data is needed but is not currently collected
- Develop strategies on how to collect and exchange existing information.
- Identify the essential data needed that does not exist and develop strategies for how it could be collected.
- Identify where the information will be located or stored, how it will be accessed, and who will be able to access it.

15) Freight Data Catalog (formerly Data Dictionary)

JWC will develop a U.S. - Mexico Freight Planning Data Catalog that includes what data exists; where it can be found; who is the primary contact for the data source or data base; the collection methodology (if known); what tools are available to analyze this data; and what are the data gaps. Additionally, the effort will describe how this information will be relayed to JWC members and other groups through websites, reports, or other methods.

16) Traffic Incident Management Practices for Application at the U.S.-Mexico Border

Through the Border Technology Exchange Program, JWC will conduct workshops exploring best practices in Traffic Incident Management (TIM) application at the U.S.-Mexico border. Potential areas of focus include:

- Providing more TIM training on a State-to-State basis (U.S. State to Mexican State) and training Spanish-speaking trainers;

- Allowing Mexico access to TIM materials for translation and distribution among its first responders; and
- Identifying the communications protocols used in responding to incidents within and adjacent to POEs.

17) San Luis and San Luis Rio Colorado Pedestrian and Bicycle Access Study

The study would evaluate the existing conditions and assess the needs for pedestrian and bicycle border crossing access based on the existing data availability from previous and current studies, as well as new information conducted through this study. The existing conditions report and analysis will identify existing transportation and transit infrastructure conditions, demand for transit pedestrian and bicycle services, and evaluate possible impacts to non-motorized circulation resulting from possible improvements at the Port of Entry I. A travel behavior analysis will be conducted of cross-border pedestrian and bicycle travel to provide a better understanding of the mode of transportation and necessities at the POE. The study would further provide concept plans based on past studies and current demands that illustrate improvements to the circulation of pedestrians, bicycles, and transit services and/or facilities to benefit the overall transportation network and foster public health for residents of this border community. Preliminary concepts will include pedestrians and bicycle access at the POE, including, but not limited to facility needs assessments, pedestrian separation elements, pedestrian comfort stations, signs, water fountains, shades, sidewalks, welcome signs, and other non-motorized improvements. A financial element strategy will be included in order to estimate the cost of improvements and possible revenue sources to implement improvements. Overall, the study will provide recommended improvements and policies that can be implemented in order to provide a safer, easier and more comfortable border experience for pedestrians and bicyclists. This will be 12-month study.